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21 July 1993



**FOREIGN
BROADCAST
INFORMATION
SERVICE**

JPRS Report

Central Eurasia

Military Affairs

Central Eurasia Military Affairs

JPRS-UMA-93-025

CONTENTS

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CIS/RUSSIAN MILITARY ISSUES

CIS/RUSSIA ARMED FORCES

Young General's Rise Linked to Shumeyko Corruption Charges [SOVETSKAYA ROSSIYA 26 Jun]	1
Economic Activities Harmful to Military, Reform Needed [ARMIYA No 5, 18 Mar]	6

CIS: GROUND TROOPS

Modifications to T-80U Examined [KRASNAYA ZVEZDA 3 Jul]	8
Specifications of 2B16 120-mm Gun 'Nona-K' [KRASNAYA ZVEZDA 9 Jul]	9
Fortifications for Command Posts [VOYENNY VESTNIK 22 Mar]	9

CIS: AIR, AIR DEFENSE FORCES

KA-50 Said To Out-Perform Apache [KRYLYA RODINY No 3]	11
Specifications, Performance of Proposed UTK-YaK Trainer [KRYLYA RODINY 12 Apr]	14

CIS: NAVAL FORCES

Political Study Classes Held in Kamchatka Flotillas [NEZAVISIMAYA GAZETA 9 Jul]	16
Sevastopol—A Zone of Possible Conflict? [MORSKOY SBORNIK No 4, Apr]	16

CIS: REAR SERVICES, SUPPORT ISSUES

Russian Army Considers Expanded Environmental Role [IZVESTIYA 17 Jun]	23
Col-Gen Zazulin on Future Needs, Demands for Motor Vehicles [KRASNAYA ZVEZDA 6 Jul] ..	23
Staff Conference Discusses Reforms, Future of Rear Services [KRASNAYA ZVEZDA 13 Jul]	25

STATE AND LOCAL MILITARY FORCES

INTERREGIONAL MILITARY ISSUES

Agreement With Russia Needed on Missile Maintenance [KRASNAYA ZVEZDA 14 Jul]	27
--	----

BELARUS

Belarus To Negotiate With Firms on Destruction of Munitions [KRASNAYA ZVEZDA 3 Jul]	27
--	----

BALTIC STATES

Defense Forces Chief Aleksander Einseln Profiled [POSTIMEES 1 Jun]	28
--	----

CAUCASIAN STATES

Abkhaz-Georgia Conflict: Russian Medical Unit Working in Gudauta [KRASNAYA ZVEZDA 9 Jul]	29
---	----

CENTRAL ASIAN STATES

Results of Winter Training in Kazakh Armed Forces	[KRASNAYA ZVEZDA 6 Jul]	30
Exchange of Fire With Afghans Continues in Tajikistan	[KRASNAYA ZVEZDA 13 Jul]	31

GENERAL ISSUES

ARMS TRADE

MIG-31 Compared with F-14D	[KRYLYA RODINY No 3]	33
History, Specifications, Selling Points of MIG-29	[KRYLYA RODINY No 3]	36

SECURITY SERVICES

MVD Information Storage, Retrieval Key to Anti-Crime Work	[KRASNAYA ZVEZDA 19 Jun]	..	38
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CIS/RUSSIA ARMED FORCES

Young General's Rise Linked to Shumeyko Corruption Charges

934F0818A Moscow SOVETSKAYA ROSSIYA
in Russian 26 Jun 93 p 4

[Article by Igor Chernyak: "Who Are You, General Dima?"]

[Text] Yakubovskiy, Dmitriy Olegovich. Born 5 October 1963 in the village of Bolshevo in Moscow Oblast. Resides in Moscow. In 1988, graduated from the All-Union Legal Correspondence Institute.

Excerpt from Order No. 13 from the chairman of the Committee on Preparing for and Conducting Military Reform of 1 March 1992.

Effective 1 March 1992, accept Yakubovskiy, Dmitriy Olegovich, to work on the Committee on Preparing for and Conducting Military Reform of the Fourth Division as a specialist-expert with a salary of 2,280 rubles [R].

Chairman of the Committee, General of the Army K. Kovets.

Directive of the Government of the Russian Federation of 3 June 1992, No. 1034-r.

Appoint Yakubovskiy, Dmitriy Olegovich as an adviser of the Government of the Russian Federation.

First Deputy Chairman of the Government of the Russian Federation V. Shumeyko.

Excerpt from Order No. 25 of the minister of defense of the Russian Federation of 16 July 1992.

In keeping with Article 85 of the statute on performance of military service by officer personnel of the Armed Forces, as an exception, award the reserve officers listed below, who have long work experience in their specialty in the military service, reserve ranks THREE grades higher than the ones they now have:

Major of Justice:

Reserve Lieutenant of Justice Yakubovskiy, Dmitriy Olegovich.

Minister of Defense of the Russian Federation, General of the Army P. Grachev.

Excerpt from the order of the general director of the Federal Agency for Legal Communications and Information under the president of the Russian Federation of 21 July 1992, No. 201-LS.

Enroll for active military service in the FAPSI [Federal Agency for Legal Communications and Information] under the president of the Russian Federation Major of Justice Yakubovskiy, Dmitriy Olegovich, who has come from the Armed Forces reserve.

Assign Major of Justice Yakubovskiy, D.O., the military rank of colonel.

Enroll in the active reserve of FAPSI under the president of the Russian Federation Colonel Yakubovskiy, D.O., in the position of deputy chief of the Main Administration of FAPSI.

Agency General Director, A. Starovoytov.

Top secret.[as published]

From the directive of the Government of Russian Federation of 17 September 1992, No. 1727-rs.

1. Institute the position of authorized representative of law enforcement organs and special and information services in the Government of the Russian Federation....

3. Appoint Yakubovskiy, Dmitriy Olegovich, as authorized representative of law enforcement organs and special and information services in the Government of the Russian Federation. Appoint him to the federal agency for governmental communications and information under the president of the Russian Federation in the position of authorized representative of law enforcement organs and special and information services in the Government of the Russian Federation as an officer (general) of the federal agency for governmental communications and information under the president of the Russian Federation and register him in the active reserve of the federal agency.

First Deputy Chairman of the Government of the Russian Federation V. Shumeyko.

Printed in 13 copies.

Top secret.

Edict of the president of the Russian Federation.

1. Institute the position of authorized representative of law enforcement organs of special and information services in the Government of the Russian Federation....

3. Appoint Yakubovskiy, Dmitriy Olegovich, to be an authorized representative of law enforcement organs and special and information services in the Government of the Russian Federation. Assign him to the federal agency for governmental communications and information under the president of the Russian Federation in the position of authorized representative of law enforcement organs and special and information services in the Government of the Russian Federation as an officer (general)

of the Federal Agency for Governmental Communications and Information under the president of the Russian Federation and enroll him in the active reserve of the federal agency.

4. In the Federal Agency for Governmental Communications and Information under the president of the Russian Federation, assign the military rank of major general to Colonel Yakubovskiy, Dmitriy Olegovich.

5. Oversight of the implementation of present edict is assigned to the first deputy chairman of the Government of the Russian Federation, V.F. Shumeyko.

President of the Russian Federation B. Yeltsin.

The draft was submitted by: First Deputy Chairman of the Government of the Russian Federation, V.F. Shumeyko.

The draft was coordinated by:

Minister of Security of the Russian Federation V.P. Barannikov;

Minister of Internal Affairs of the Russian Federation V.F. Yerin;

Deputy Minister of Justice of the Russian Federation B.V. Panferov;

Procurator General of the Russian Federation V.G. Stepankov;

General Director of the Federal Agency for Governmental Communications and Information under the president of the Russian Federation A.V. Starovoytov;

Director of the Foreign Intelligence Service under the president of the Russian Federation Ye. M. Primakov;

First Deputy Minister of Defense of the Russian Federation A.A. Kokoshin.

It was coordinated verbally with President of the Russian Federation B.N. Yeltsin and Acting Chairman of the Government of the Russian Federation Ye.T. Gaydar by the first deputy chairman of the Government of the Russian Federation, V.F. Shumeyko.

The draft was endorsed by:

chief of the personnel administration, D.D. Rumyantsev;

chief of the legal support department, M.M. Rasolov.

Executor:

Ye.A. Verbitskiy—secretariat of the first deputy chairman of the Government of the Russian Federation.

The majority of these documents were published in ROSSIYSKAYA GAZETA on 24 April.

And so, the first conclusion: The 29-year-old Dima Yakubovskiy, a completely undistinguished native of a Moscow area village, suddenly in five days rose through the ranks from a lieutenant to a colonel. This did not

even happen to Yuriy Gagarin. At his own expense, Yakubovskiy had a colonel's uniform made in an experimental plant with a letter of authorization from the chief of V. Shumeyko's secretariat, Ye. Verbitskiy. But he did not have to wear it for long: Soon a presidential edict was prepared to confer on Dima the rank of major general. Vladimir Shumeyko coordinated the appointment with the leaders of all the power structures of Russia, Acting Prime Minister Ye. Gaydar and President B. Yeltsin. Dima could get his general's bars fitted. But....

But why hurry. First let us try to understand what brought about such an unprecedented rise.

From a memorandum from the Office of the Procurator General of Russia:

"On 24 September 1992 in the premises of the 'Information Agency' under the Committee for Preparing for and Conducting Military Reform, there was a conversation with the Agency's leader, V.I. Zarembo. It should be noted that V.I. Zarembo 'winged it' regarding all organizational, staff, and financial questions, and was unable to give precise and exhaustive answers to many of them.

"V.I. Zarembo explained that during the period of his employment in the position of chief of the Central Communications Unit of the General Staff of the USSR Ministry of Defense, at some time during 1988-89 he made the acquaintance of D.O. Yakubovskiy, who was working at the time either in the Procurator's Office or on the Board of Advocates. He did not recall the circumstances under which they met. At D.O. Yakubovskiy's request, V.I. Zarembo rendered him services, providing Ministry of Defense communications channels for interurban conversations.

"V.I. Zarembo's superior was General K.I. Kobets. During the period of the campaign for elections to the RSFSR Supreme Soviet, K.I. Kobets was nominated from the Chekhovskiy electoral district of Moscow Oblast. The campaign agent for K.I. Kobets was V.I. Zarembo. He also enlisted D.O. Yakubovskiy to participate in the election campaign. The latter took advantage of his personal acquaintance with V. Vinokur to organize two free concerts by him in the electoral district. Yakubovskiy also rendered aid in preparing and writing K.I. Kobets' speeches, which earned him the latter's favor.

"After K.I. Kobets' election as people's deputy of the Russian Federation, D.O. Yakubovskiy and V.I. Zarembo gained access to the high leadership circles of the Armed Forces, the deputy corps, and members of the Supreme Soviet. In particular, Yakubovskiy made V.F. Shumeyko's acquaintance. In 1991 D.O. Yakubovskiy went to Zurich, where he organized a trade-intermediary firm which conducted transactions and rendered services to Russian departments in verifying the reliability

of foreign partners. Yakubovskiy's middle brother, Stanislav (his location can be clarified through Interpol), was named the leader of the firm Telamon, Ltd., and his younger brother, Aleksandr, is studying in Toronto.

"Officially, Yakubovskiy has been married four times, and his second wife is the daughter of the former deputy chairman of the Moscow Oblast Executive Committee for Construction, I.K. Muravyev (now cofounder of Information Agency and general director of VAMO, a state foreign economic association under the administration of Moscow Oblast). At the present time Yakubovskiy is married to Marina Krasner, a Canadian citizen whose parents emigrated from the USSR more than 20 years ago.

"When abroad, D.O. Yakubovskiy has always maintained contact with V.F. Shumeyko, K.I. Kobets, and V.I. Zarembo. According to V.I. Zarembo, I.K. Muravyev, and L.S. Sukholinskiy-Mestechkin, D.O. Yakubovskiy is the 'ideologist' of the creation of the Information Agency limited liability partnership under the Committee on Preparing for and Conducting Military Reform. He prepared the charter, signed the articles of incorporation, and determined who the cofounders would be: the Committee on Preparing for and Conducting Military Reform (K.I. Kobets, V.I. Zarembo), VAMO (state foreign economic association under the administration of Moscow Oblast) (I.K. Muravyev), and the Investor, Ltd., firm (L.S. Sukholinskiy-Mestechkin). They were subsequently joined by FAPSI (A.V. Starovoytov) and the Main Technical Administration (GTU) of the Ministry of Foreign Economic Relations of the Russian Federation (V.G. Brailovskiy)."

Stop. What is the Information Agency?

From the ROSSIYSKAYA GAZETA dossier. The Information Agency under the Committee for Preparing for and Conducting Military Reform was created on 23 March 1992. On 24 March the agency was registered in the Moscow Registration Chamber (Registration No. 150937).

"The basic kind of economic and entrepreneurial activity of the enterprise that was created is reflected in its name: information activity," write Kobets, Muravyev, Sukholinskiy, and Mestechkin in the application for registration. Additionally, true, it is stipulated: "In addition to the aforementioned basic kind of activity, the enterprise plans other multi-profile activity as well."

Well, all right, the people created a modest information agency. Are there not enough such structures in Russia?

The documents below make it possible to assert that the agency was the only one of its kind.

From a memorandum from the Procurator General's Office:

"On 16 March 1992 K. Kobets wrote a letter to the minister of foreign affairs of the Russian Federation A.

Kozyrev. Kobets requested 'rendering maximum assistance in solving the problem of reregistering the diplomatic passports of D.O. Yakubovskiy, which is justified by the fact that D.O. Yakubovskiy performs a number of special tasks abroad.' Kobets recalls also that D.O. Yakubovskiy has already been granted diplomatic immunity.

"The Ministry of Foreign Affairs granted the Army general's request.

"Through the government (V.F. Shumeyko), Yakubovskiy solved the problem of assigning the 'Information Agency' premises at the following address: Novyy Arbat, 15, 18th floor, right side. And he also solved the problem of concluding an agreement with the mayor's office. He used cover letters signed by V.F. Shumeyko, K.I. Kobets, and V.I. Zarembo.

"During March-April 1992, Army General K.I. Kobets wrote letters to the chief of FAPSI, A.V. Starovoytov, about the installation of one ATS-1 [automatic telephone exchange] line and five ATS-2 lines as well as five sets of PM [not further identified] equipment for workers of the 'Information Agency' at the address: Moscow, Novyy Arbat, 15. All the orders were filled before 4 June 1992.

"FAPSI installed in the agency's premises 14 ATS subscriber lines on the Kremlin circuit and 17 on the computer center circuit. (The means of communications in the two offices were not inspected, because there were no keys). No agreement was concluded between the 'Information Agency' and FAPSI to pay for the means of communication, and the corresponding payment was never made. Repairs in all the premises were made at the expense of Yakubovskiy's foreign firm. All the means of communications, office equipment, several sets of video equipment, and about 10 computers—all imported—were purchased by Yakubovskiy. It was planned to create a joint venture later.

"Yakubovskiy also worked out with the government the question of concluding an agreement for leasing 10 motor vehicles from the FKbU [not further identified] of the Supreme Soviet of the Russian Federation, including one Chayka, five GAZ-3102's, and four GAZ-2410's, and nine of these vehicles were to be available on two shifts and one GAZ-3102—24 hours a day.

"It should also be noted that, according to the outgoing letter from the administration of Moscow Oblast of 5 Jun 1992, No. 13, 1084/1, and the agreement of the first deputy chairman of the Government of the Russian Federation, V.F. Shumeyko, of 8 June 1992, No. P-34-21500, the Agropromkhim production association on 10 July 1992 transferred from its balance sheet to the VAMO balance sheet the premises and office of 'Le Grand Bleu' at the address: Monaco, Monte Carlo 51, Ave Hektor Otto (apartments Nos. 38, 41, and 42, warehouse No. 33, furniture in the three apartments, and parking places Nos. 35 and 45), and a unit in a multi-story building put into operation in 1990 at a cost of 29,445,300.16 in French francs or R3,164,569.21.

"On 27 May 1992 Major General V.I. Zarembo in outgoing dispatch 05-27/1 sent a letter to the chief of FAPSI about the installation in two Mercedes-500's (state registration number 71-00 MOL and 72-00 MOL) secure government mobile phones Rosa-D and Amstrem for D.O. Yakubovskiy. It was okayed by A.V. Starovoytov: 'Please take care of this immediately!' The order was filled in two days."

"On 19 June 1992 the head of the administration of Moscow Oblast, A.S. Tyazhlov, under No. 1, outgoing letter 1,165 wrote to the first deputy chairman of the Government of the Russian Federation, V.F. Shumeiko, informing him of the creation of the 'information agency' (including the cofounders and the GTU of the Ministry of Foreign Economic Relations).

"Through A.V. Starovoytov D.O. Yakubovskiy found out that FAPSI had a special dacha. Through the head of the administration of Moscow Oblast, Tyazhlov, and also Kobets and Starovoytov, with V.F. Shumeiko's consent, a merger was worked out and a directive to transfer the Zhukovka-4 dacha from the FAPSI balance sheet to the balance sheet of the 'information agency' was signed, but since this entailed a change in the form of ownership, the transaction was never completed.

"It must be noted that, taking into account the fact that the agency has nowhere to conduct protocol, representative, and other measures, the administration of Moscow Oblast supported a proposal to transfer Zhukovka-4 from the FAPSI balance sheet to the agency's balance sheet and asked for permission to change the documentation. As compensation, the administration promised to render assistance to FAPSI in allotting a section of land in Moscow Oblast with an area of up to 10 hectares for construction of low-standing buildings and dachas.

"On 22 June 1992 V.F. Shumeiko agreed to the transfer of the dacha and the allotment of 10 hectares of land for the construction of dacha buildings.

"Because it was impossible to transfer the Zhukovka-4 dacha to the agency (the transformation of federal property into private property of a different kind) FAPSI's general director, A.V. Starovoytov, in June outgoing letter No. 298s wrote to V.F. Shumeiko, suggesting that the dacha be transferred to the balance sheet of the VAMO State Foreign Economic Association (cofounder of the 'information agency'). On 9 June 1992 V.F. Shumeiko gave his consent.

"On 30 June 1991, according to the document of acceptance of the transfer on the basis of the decision of the first deputy of the Government of the Russian Federation, V.F. Shumeiko of 29 July 1992, VSh-P-34-238, and the decision of the leadership of FAPSI, No. RF/3605 of 25 June 1992, the operation was completed for transferring the dacha, which had an overall value of R171,951, from one balance sheet to the other.

"Capital repair was conducted on the dacha; it was furnished with Italian furniture, and bullet-proof glass was installed in the windows at D.O. Yakubovskiy's expense.

"On 10 June 1992 General of the Army K.I. Kobets in outgoing letter 208-1/1005 wrote to V.F. Shumeiko, asking his permission to provide FAPSI security forces to guard the information agency—in order to ensure the safety of documents, material assets, and also personal property."

"On 11 June 1992 V.F. Shumeiko agreed to the proposal and requested that A.V. Starovoytov provide protection for the Information Agency (VSh-PZCh-22015).

"In compliance with the letter from the 'Information Agency' and the resolution of V.F. Shumeiko, FAPSI installed four guards armed with AKS-74U automatics to guard the perimeter of the dacha. Additionally, they shipped to the dacha from the FAPSI arsenal and transferred to the guard detail—which consists of 10 people selected by Yakubovskiy from among the officers of the reserve of the former Ninth Administration of the USSR KGB—15 Makarov pistols and four AKS-74U's with a basic load of ammunition.

"On 4 August 1992, in outgoing letter 01-R, the chief of the enterprise, Major General V.I. Zarembo, wrote V.F. Shumeiko, requesting that he instruct the Ministry of Internal Affairs to grant permission on the established form to acquire, store, and bear firearms (PM pistols and cartridges) to 11 workers in order to ensure personal safety and the protection of a number of special purpose facilities.

"On that same day, 4 August 1992, V.F. Shumeiko, in outgoing letter VSh-PZCh-28689, gave instructions to the first deputy minister of internal affairs of the Russian Federation, A.F. Dunayev: 'Because of the importance of the work done, including work within the jurisdiction of the Government of the Russian Federation, I consider it necessary to satisfy their request and ask that you immediately issue permits to the 11 people indicated to bear and keep firearms and also to acquire them. Report personally.'

"On 4 August 1992, the first deputy minister of internal affairs of the Russian Federation, A.F. Dunayev, gave instructions to A.A. Chekalin: 'Please make a decision and inform Comrade Shumeiko of this decision for his report.'

"On 5 August 1992 the deputy chief of the main administration for maintaining public order of the Ministry of Internal Affairs of the Russian Federation, A.A. Chekalin, gave instructions to V.I. Deykin: 'Urgent: Register documents with the ministry staff.'

"During the interrogation, V.I. Deykin gave testimony that, on instructions from one of the Ministry of Internal Affairs leaders, he too had given D.O. Yakubovskiy a

permit to carry and keep a Beretta pistol. (It was not for protocol that Dunayev was mentioned.)

"FAPSI and the agency had no agreement to pay for guarding the dacha, that is, the guard was free of charge. Yakubovskiy paid the guard detail."

We shall interrupt the quotation and ask ourselves an elementary question: Why are big-time state bureaucrats fawning over some information agency?

From the charter of the Information Agency under the Committee for Preparing for and Conducting Military Reform:

"...the enterprise conducts....activity in the following areas:

"....—acquisition, production, upgrading, modification, and sale of weapons and weapons systems, military technology, and the corresponding equipment and technology....:

—acquisition, production, upgrading, modification, and sale of sea, air, and missile equipment for various purposes;

—acquisition, procurement, production, upgrading, modification, and sale of rare earth and precious metals, precious stones, and jewelry items...."

There are 45 points like this in the charter. The humble information agency can do everything: from trade in timber to the sale of missile technologies.

Is it clear now?

For people who cannot understand anything at all—just one example. The chairman of the coordination council of the officer meetings of the Baltic region, Vladimir Kandalovskiy, says:

"In September 1992 the Third Guard Division of the Coast Guard, stationed in Klaipeda, turned 5,000 automatics over to the Lithuanians. In the words of the division chief of staff, A. Kerskiy, rear commander Navy Admiral Makhonin and Baltic Fleet commander Admiral Yegorov were present during the transfer. The 29-year-old Colonel Yakubovskiy, accompanied by an 11-man guard, was in charge of the transfer. He introduced himself as an adviser to Yegor Gaydar. He was traveling light; all he had in his hands was a small attache case."

This episode is far from the only one in the biography of "General" Dima.

From a memorandum from the Office of the Procurator General of the Russian Federation:

"During the course of operational-investigative measures, the following was established:

"The initiator of the creation of the agency and the VAMO was D.O. Yakubovskiy, who was an authorized representative of law enforcement organs and special

and information services in the Government of Russia and at the same time the deputy chief of the Main Administration of FAPSI.

"From the time of its creation up until the present, the agency has engaged in no practical activity, and it has no revenues. All expenditures related to the guard, leasing of the premises and official vehicles, repair of premises, payment for communications services, and so on, and international expenditures, the acquisition of housing, and air freight were paid for by the 'Union.' (The Union trade-financial partnership was organized in August of 1991 by Yakubovskiy's former deputy for work in the office of the Procurator of Moscow, L.S. Sukholinskiy-Mestechkin. The charter fund was R12,000. Along with him, the founding agreement was signed by five other people as well. It should be noted that one of them was the manager of Khimbank and three were workers of Agropromkhim.)

"With D.O. Yakubovskiy's intermediation, in April 1992 a contract was concluded between VAMO and the Telamon, Ltd., firm for the delivery of children's food and equipment for its production worth \$30 million, according to which, by a directive from the Government of the Russian Federation (V.F. Shumeyko), \$14.5 million was transferred into a Swiss bank account. But the contract was not fulfilled, and a new one was signed in June—for the delivery from Hungary to the Main Public Health Administration of Moscow Oblast during July-August of this year children's food worth a total of only \$1.7 million. All three of Yakubovskiy's brothers have dealings with Telamon, Ltd. And they are also the owners of the firm Listal A.

"On instructions from D.O. Yakubovskiy on behalf of the Government of Russia, the president of the state corporation Ugol Rossii, V.Ye. Zaydenvarg, illegally transferred R27 million into the account of Rosagrokhim as so-called ruble coverage and R20 million to the Union firm, which had nothing to do with the corporation. Before this operation was carried out by the Government of Russia, also with Yakubovskiy's intermediation, a permit was signed for Ugol Rossii to use all of its foreign currency revenues from exporting coal and conduct all financial operations through the Swiss firm Distal.

"After the decision of the Government (V.F. Shumeyko) for Rosagrokhim to transfer to the VAMO balance sheet official premises located in Monaco and appraised at 33 million French francs, VAMO, in turn, issued a certificate in the name of the commercial director of the Distal Financial Corporation firm, Panama, to Yakubovskiy's brother—Stanislav, for contributing to the charter capital of the joint venture supposedly created in Zurich. But in reality no joint firm was ever created.

"All the aforementioned and other decisions of the government were signed by the Deputy Prime Minister of the Government of Russia V.F. Shumeyko, the chief

of the secretariat of V.F. Shumeyko's staff, and Ye.A. Verbitskiy, whose wife was hired to work in VAMO at Yakubovskiy's request.

"The firms Union and Investor, Ltd. (an individual, private enterprise with a charter capital of R5,000 founded and registered on 30 January 1992 by L.S. Sukholinskiy-Mestechkin) received from the commercial Khimbank credit in the amount of R86 million for the acquisition of consumer goods, but it was used to cover the expenses of the agency and VAMO. There is an agreement between these firms and the Swiss firm Link, Ltd., for the latter to cover all expenditures of the aforementioned firms and to pay them 5 million in profit each, which was signed by Sukholinskiy-Mestechkin.

"A primary analysis of the financial documents makes it possible to draw the conclusion that the Information Agency and VAMO are a state foreign economic association under the administration of Moscow Oblast—'puppets' in the hands of the aforementioned commercial structures, since these structures put up all the money for the charter capital.

"The Union commercial-financial partnership during the time of its existence, after opening the foreign currency account in the Khimbank commercial bank, has actually executed only one contract, and after that engaged in the shifting of foreign currency from one account to another within Khimbank, exploiting the differences in the fixed capital exchange rates.

"With Yakubovskiy's intermediation the former Main Technical Administration of the Ministry of Foreign Economic Relations of the Russian Federation, upon the application of its manager, V.G. Brailovskiy, concluded a number of contracts which were obtained on demand and analyzed.

"On 17 September D.O. Yakubovskiy was issued certificate No. 0145, signed by V.F. Shumeyko certifying that he is an authorized representative of law enforcement organs and special and information services in the Government of the Russian Federation. He also had credentials from FAPSI and the Ministry of Internal Affairs of the Russian Federation.

"An analysis of the existing documents makes it possible to draw the conclusion that the Information Agency is a sham company for creating profitable large-scale activity of commercial structures and foreign firms created by D.O. Yakubovskiy.

"Thus Yakubovskiy and others, in their own personal interests, under the cover of the aforementioned enterprises and organizations, resolved problems of foreign currency transfers, the acquisition of real estate in Russia, and the performance of other operations about whose legality there are justifiable doubts requiring further verification only within the framework of a criminal case.

"It is also necessary to conduct an in-depth operational inspection and audit of the activity of the main trade administrations FAPSI and VAMO, Investor, Ltd., Union, the Information Agency, Khimbank, and Agropromkhim regarding their joint activity."

Instead of a conclusion.

On 22 September 1992, that is, on the day of the beginning of the investigation, D.O. Yakubovskiy took an emergency flight to Zurich. With him was his wife, Marina Krasner, and also a translator and a bodyguard. They were seen off at the airport by the first deputy minister of internal affairs of the Russian Federation, A.F. Dunayev, and they were accompanied to Sheremetyevo-2 airport by the chief of the transportation department of internal affairs.

The flight departed at 1950 hours.

Materials submitted to the editors by V. Urazhtsev, coordinator of the deputy group Reform of the Army, were used in preparing the article

Economic Activities Harmful to Military, Reform Needed

93UM0654A Moscow ARMIYA in Russian
No 5, 18 Mar 93 pp 43-44

[Article by Col Yu. Chernavin, candidate of philosophy, under the rubric "Voices": "The Army Builds, Sows, Harvests..."]

[Text] Our army, in my opinion, is a universal one in a way. It can not only carry out its main mission of protecting the fatherland, but can also perform many other diverse jobs not natural to the armed forces. It can extinguish flare-ups of international conflicts, for example, and perform sentry duty with the police on the streets of cities and settlements. In addition, our men in uniform build main rail lines and motor roads, erect industrial facilities, build housing and harvest crops.

It is one thing when these jobs are performed by special units, though, and quite another when formations and units for which combat training is the main sustenance are enlisted to work in the economy. Dozens of so-called virgin-land motor vehicle battalions are formed each year to harvest the crops. Last year, for example, an edict issued by the president of Russia ordered the allocation of 40 motor vehicle battalions (20,000 vehicles with drivers) to work in the fields of the Russian Federation. The military filled the order. Missilemen and seamen, airborne troops and tankmen "perfected their military skills" in the grain and potato fields. The question of whether this work provided more benefit than detriment, remains open. After all, from 30 to 50 percent of the vehicles stood idle in certain oblasts due to poor organization and a lack of something to haul. The earnings only partially covered the cost of setting up and

maintaining these battalions. Subsidies in the amount of 22 million rubles, including 10 million from the armed forces, were therefore allocated to maintain their vital functioning in 1991, for example.

These were monetary losses. But how does one measure the loss of combat capability suffered by the subunits due to the absence of drivers, let us say. There is no one to replace a driver away from the harvest, since there is already a manning shortage. And how does one evaluate the debasement of the army's status? Neither the constitution nor other laws provide for its use for economic and harvesting jobs. And what about the loss of prestige for the military service? It is unlikely that an officer and missileman in any NATO nation keeps a record of how many tons of grain his subordinates hauls from the fields to the elevator....

The problem is not just one of the troops' participation in jobs not natural to them; it is also the extensive separation of enlisted men and officers from the combat training in the units and subunits. The army operates in a survival mode, particularly in the current conditions: in the winter, stoking furnaces and hauling fuel; in the fall, harvesting potatoes and other crops; repair and construction work almost the year-round. In some subunits of the ground forces these and similar jobs take up more than 55 percent or more of the duty hours. Systematic and intensive combat training is out of the question in this situation.

Sociological surveys conducted in various troop arms show that the army's separation from its natural functions has many negative effects. In the opinion of those surveyed, the separation of the personnel from the combat training is the second most important negative factor (out of a list of 30) affecting the state of affairs in the units. The relatively typical response of the officers: "The army has become a subsidiary farm and 'fireman' to the nation. The personnel receive no satisfaction from the service. An officer deteriorates as a specialist within 2-3 years."

Endless chores for the economy frequently become the normal activity for servicemen. For example, 1,500 officers and enlisted men worked an entire three months at Moscow's fruit and vegetable bases. At the end of last year one of the central newspapers carried an article on this and happily reported that more than half of the capital's 25 fruit and vegetable bases had fulfilled their plans thanks to the military assistance. Unfortunately, however, the military personnel themselves frequently come out the worse for this kind of "assistance." Taking them away from their training creates additional difficulties with respect to mastering the equipment and weapons.

The specialists' poor training level is resulting in an increasing number of disasters, accidents.... In 1991, for example, 98,700 people in the armed forces suffered maimings or other injuries. There was a high incidence of injuries to personnel last year as well. These lamentable statistics cannot be attributed to the poor training of the

personnel alone, of course. Personnel suffer injuries from nonregulation relations, die in interethnic conflicts, and so forth. Unskilled performance by the servicemen also contributed to the bitter statistics, however.

This trend points to a certain incongruity between the status of the armed forces as set forth in the constitution and their actual status, between constitutional missions and the functions performed by the army in reality. As a result of this, a significant number of the personnel drafted into the service perform not their professional job but the cheapest and most unproductive labor. Even many officers find themselves drawn into the realm of maintenance work for the economy. All of this has a negative effect upon the army's status and prestige in the society.

One would think that Russia's reformed army should occupy that place in the society which is prescribed by the law and which is in keeping with the fatherland's interests. But when is this going to happen? After all, without the army's participation in labor it is simply impossible to resolve many urgent problems in the state. Furthermore, new problems are developing. The manpower situation in Russia is worsening.

Things are especially difficult in the rural area. The number of men between the ages of 16 and 29 years in the rural areas of Russia decreased by 20 percent during the '80s, for example. Today many jobs in the rural areas are only being performed with the help of urban residents, students or the military. As soon as the authorities relaxed their management of agriculture under the influence of the democratization processes begun at that time, among other things, the harvesting of the crops encountered enormous difficulties. It became necessary to declare a state of emergency in a number of oblasts during the harvest.

The quickest possible introduction and development of alternative service in the nation, by means of which jobs essential to the society can be performed, is an important step to relieve the troops of jobs not natural to them. We obviously need to considerably enlarge the grounds for registering draftees as alternative-service personnel, not limiting these to considerations of conscience or convictions but including also such social indicators as state of health, criminal record and length of residency in a specific region.

In my opinion, a professional militia system for manning the army deserves careful study. The army would then consist of two parts: regular forces and a territorial militia. The former would perform combat work, while the latter would train reserves, guard facilities, mop up after natural disasters and provide the nation with economic assistance.

The army will obviously continue to take part in economic activities for the near future. This is only possible,

however, if it can earn additional income for itself. After all, the problem of providing social support for military personnel is worsening. Increasing prices and growing inflation are reducing their purchasing power and making their financial situation worse.

Furthermore, in order to halt the separation of officers and enlisted men from their professional military work right in the forces it is important that we overcome the inadequate manning, the weakness and the inadequate technical equipment of rear service units designated to provide support for the combat training. In the U.S. ground forces 30 percent of the personnel in divisions and 35 percent in army corps serve in service and support subunits. Moreover, civilian establishments and companies handle barracks maintenance, the provision of the units with farm products and the organization of leisure-time activities for the servicemen.

The number of military personnel in rear service units and subunits of the former USSR's armed forces at the beginning of the '90s comprised only 2.8 percent of the total numerical strength. Those changes announced by the Ministry of Defense of the USSR during that period as part of the military reform did not provide for an increase in the number of officers and enlisted men in the rear service units. It is possible in the process of organizational development of Russia's army to eliminate that gap, which is hampering the assignment of priority to qualitative indices in the troop training, the professionalization of the army and improvement of the nature and the substance of the military work.

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CIS: GROUND TROOPS

Modifications to T-80U Examined

93UM0661A Moscow KRSNAYA ZVEZDA in Russian
3 Jul 93 p 6

[Article by Major Aleksandr Yegorov: "Honors for Tank Said by Abu Dhabi to 'Fly'"; first paragraph is KRSNAYA ZVEZDA introduction]

[Text] On 8 June, RF [Russian Federation] President B. Yeltsin signed the Edict on Awarding the Russian Federation 1993 State Prize in Science and Technology.

Included in the laureates is a group of scientists and practitioners who participated in developing a number of new technical solutions for the T-80U tank and effecting the latter's series production: Nikolay Popov (task supervisor), chief executive designer and chief, Special Design Bureau for Transportation Machine Construction, Kirovskiy Zavod Production Association; Eduard Potemkin, doctor of technical sciences, director, All-Russian Scientific Research Institute for Transportation Machine Construction; Sali Katyk, doctor of technical sciences, general director, Transportation Machine

Construction Plant imeni October Revolution Production Association; Aleksandr Galkin, Colonel General, chief, Main Armor Directorate, Russian Federation Ministry of Defense; Lev Zakharov, Instrument Design Bureau Section chief, Tochnost Scientific Production Association; Aleksandr Abramov, candidate of technical sciences, deputy chief designer, Central Design Bureau, Krasnogorsk Plant imeni S. Zverev Krasnogorsk Production Association; Aleksandr Tolkachev, department chief, Central Design Bureau for Precision Instruments; Anatoliy Slovikovskiy, chief designer, Kharkov Design Bureau for Machine Construction imeni A. Morozov.

There is no need to acquaint our readers with the T-80U, since the tactical and technical characteristics of the vehicle were published in the 12 February 1993 edition of KRSNAYA ZVEZDA under the "Arsenal" rubric. It was at that time that the "Eighty" won international recognition at the IDEX-93 military weapons and equipment exhibition held in Abu Dhabi. The T-80U's unique mobility features earned it the title of the "flying tank." Here is where a listing of the differences between the "U" and its predecessor, the "B," is in order. It was these modifications which made it possible to effect a considerable improvement - by a factor of 1.25 - in the vehicle's combat and technical characteristics, for which the State Prize was awarded. We requested Colonel General A. Galkin to explain.

"I should start by pointing out that the T-80U incorporates an improved fire control system," said Aleksandr Aleksandrovich. "We have made it possible for the commander to employ duplicate fire controls for all the weapons, without his having to leave his combat station. I believe I know why this was done: There henceforth is no need for the commander to leave his station in the event the gunner is incapacitated. In addition, the target designation procedure has been simplified.

"The guided missile system has been upgraded. Firepower has been enhanced by including into the ammunition basic load a ATGM, which is guided by a laser beam, not by radio commands, as in the T-80B. The innovation enables the T-80U to engage targets at a range of 5,000 meters, something which is not possible in the case of the Abrams, the Leopard, or any other Western tank. That is the reason why the Americans did not bring forth their M1A2 for demonstration firing in Abu Dhabi.

"What else did the upgrading provide? Fire effectiveness was improved from the figure of 0.55 associated with gun firing to 0.8 for the 9M119 ATGM. The level of protection offered by the tank has been raised by 15 to 20 percent by the inclusion of a dynamic element into the armor. The present protection satisfies modern requirements, rendering the vehicle competitive with any tank in the world.

"The T-80U is fitted with improved night vision devices, thus affording an extension of the range capability. Engine output was increased from the T-80B's 1,100 horsepower to 1,250.

"An infamous drawback of gas turbine engines is their high fuel consumption. We improved economy by introducing into the new vehicle a self-contained power supply, so that all electrically-driven devices can function without operating the propulsion unit. There is a dire need for this kind of power supply in the conduct of defensive operations.

"The T-80U also incorporates other innovations. Extensive fitting of the latter has provided the Russian Army's inventory with a vehicle model possessing qualitatively new characteristics without resorting to creating a new vehicle.

"Finally, acceptance testing of the T-80U involved subjecting the vehicle to severe trials carried out at low temperatures in Transbaykal, in high heat of Kazakhstan and Turkmenistan, and in marshes and sands of Belarus. Therefore, there can be no doubts as to its reliability. The tank entered series production without major interruption of the manufacturing process, which was extremely important in light of existing difficult economic conditions."

Specifications of 2B16 120-mm Gun 'Nona-K'

93UM0675A Moscow KRASNAYA ZVEZDA in Russian
9 Jul 93 p 2

[Article by Col Vitaliy Moroz under the rubric "Arsenal": "Nona's' Third Face"]

[Text] Can the properties of a mortar and a howitzer be combined in the same artillery system? Perm designers headed by Yuriy Nikolayevich Kalachnikov answered this daring question in the affirmative. They were the first in the world—emphasis on that—to design a gun capable of medium-angle fire using 120-mm mortar shells of any origin, including foreign, and flat trajectory fire using projectiles of a special design that are stabilized in flight by rotation.

The gun, which came to be called the "Nona," is breech-loaded. Its barrel is rifled. The projectiles, which operate according to the principle of a mortar shell, are also rifled. They are equal in their target effectiveness to a 152-mm howitzer projectile, and they exceed all foreign analogues in power.

Two variants of the "Nona" were already described under the rubric "Arsenal" (in the 24 November 1992 edition of KRASNAYA ZVEZDA). One was the "Nona-S" or the 2S9 self-propelled gun mounted on a BTR-D tracked transporter. It was supplied to airborne forces beginning in 1981, and it proved itself excellently in a combat situation in Afghanistan. And there was the "Nona-SVK" (the 2S23), mounted on a BTR-80 armored personnel carrier. The gun has been supplied in this version to the ground forces since 1990.

Today we present the third face of the "Nona" to readers. The "Nona-K" (wheeled), or by its more precise designation the 2B16 120-mm gun, was adopted in 1986, and it is also intended for paratroopers.

The merits and advantages of self-propelled artillery were emphasized on several occasions in articles carried under this rubric. Paradoxical as it may seem, towed artillery also has both. Towed guns are cheaper to produce at the same combat effectiveness. They are more reliable in difficult operating conditions, they are easier to maintain and to use in combat, and they are adapted for transportation by any type of prime mover. As far as concerns the "Nona-K" described here, it is intended to be towed by a GAZ-66 motor vehicle, but a UAZ-469 could handle this task if need be.

The "Nona-K" is simple in its layout. Jacks are deployed at its fire position to ensure secure contact with the ground. In distinction from self-propelled variants, the barrel is equipped with a muzzle brake absorbing up to 30 percent of the recoil energy. In travel configuration the barrel is folded together with the trail legs, and the gun assumes an extremely compact appearance.

The "Nona-K" and "Nona-SVK" were demonstrated at an arms exhibition in Abu Dhabi (United Arab Emirates), where specialists displayed keen interest in them.

Specifications of the 2B16 120-mm Gun ("Nona-K")

Weight, kg	1,200
Crew, persons	5
Laying angles, degrees	
Vertical	+30
Horizontal	From -10 to +30
Maximum range of fire, km	
High explosive fragmentation artillery shells	8.7
High explosive fragmentation mortar shells	7.1
Rate of fire, rounds/min	8-10

Fortifications for Command Posts

93UM0645A Moscow VOYENNY VESTNIK
in Russian 22 Mar 93 pp 35-38

[Article by Candidate of Technical Sciences, Senior Lecturer, Colonel A. Platonov: "Fortifications for Command Posts"]

[Text] It is common knowledge that command posts are among the primary targets that an enemy attempts to destroy. The most modern and highly effective combat weapons will be employed to suppress them. That is why a special place must be allotted to fortification of command posts and first of all erection of protective structures among the measures directed at ensuring the ability of troop command and control to withstand enemy attack.

At the present time, primarily closed type reusable structures like "Bunker", KVS-A, KVS-U, and others are employed to shelter command post command personnel.

Their entry into the troops began more than 25 years ago and for a long time they were considered to be adequately reliable collective protection systems. Today, they have ceased to satisfy us according to many parameters, including durability and floor space specifications.

The more modern KVS-AM and PKS-Z significantly exceed those mentioned above. So, these structures can be mated to each other to obtain greater floor space. In the process, not only the length of the building but also the width is increased. For example, you can assemble a twinned structure with a four meter bay and a total of 75 square meters of floor space. However, their number in the troops is extremely limited right now. Therefore, at command posts, especially in the defense or at staging areas, for an offensive, we need to widely employ, as before, fortifications made from locally-available materials.

Their creation from non-traditional large-bay structures without reducing protective features is attained by employing so-called malleable structural elements, the design theory of which was developed by a group of scientists-fortifications builders under the leadership of Professor Ye. Kolibernov. We would like to clarify for the readers that the effect of malleability is manifested when the freedom to move up to certain values under the impact of an explosive load is given to the load-bearing elements. As a result of that, part of the explosive energy is expended on the operation to move the fortification's malleable structural elements and loses its destructive force.

The structure has such protective features as a shelter of a seamless design, although the bay here has been increased by a factor of two. In this design, the covering does not rigidly rest on the supports of the walls but has an elastic foundation in the shape of a log that has been laid on the ground of the back fill. The supports of that frame will serve as limiters of the movement of the elements of the covering. At the present time, several dozen malleable structural elements have been developed for command posts.

A specific feature of fortifications for command posts is the fact that they as a rule must be equipped with automated command and control systems (ASUV). Right now the majority of fortifications cannot support installation of fixed automated command and control systems in them and the latter are installed in KShM [command and staff vehicles]. Consequently, part of the command staff can find itself unsheltered with the consequences that ensue from that under the sudden impact of enemy weapons.

If we resolve that problem simply, we need to erect special closed-type structures for command and staff vehicles that are equipped with automated command and control systems work stations at command posts. But in this case, large-bay fortifications with 150-200

square meters of work space are needed. The weight of such a "monster" will be several tens of tonnes and erection time will be several days. Therefore, structures of that type will hardly find widespread use, especially while conducting mobile combat operations.

We see a more promising direction in the employment of modular structures with built-in technical and special equipment. Essentially, this signifies imparting protective functions to a command and staff vehicle at the level of a fortification. Variations of the design solution of these modules are possible.

For example, command and staff vehicle bodies fulfill the role of a framework of protection from crewed weapons. That protective vehicle can be equipped with winches that are capable of towing it across a ground cushioning layer. That is, this ensures the rapid extraction of the vehicle-fortification from the ground when the command post is moved. The design solution of the modular fortified structure based upon the principle of the protective command and staff vehicle will impart high mobility to command posts and their reliable protection with minimal periods of deployment area engineer preparation.

We must note that our fortifications designers under the leadership of V.N. Vasilchenko and Ye.Yu. Lipskiy had already developed this protective vehicle in the 1960's. It was developed up to test models and underwent field testing. However, it did not enter series production due to departmental bureaucracy. They could not at all determine: who should be responsible for it? On the one hand, this was a fortified protection system but, on the other hand, it was a command and control system. Right now, while considering the broader introduction of automated command and control systems, we need to return to this idea on a new technological basis.

A fortification in the shape of an interchangeable canister could become another variation of the design solution of the module. It is transported on a basic combined arms motor vehicle chassis that permits the installation of the structure in a trench and also its extraction from under a ground cushioning layer.

Despite any technical and economic difficulties in the contemporary fortification, we can more clearly see a trend toward the employment of precisely these large-panel modules that would support permanent installation of fixed automated command and control systems equipment and also the reduction of time and labor for their erection.

Prefabricated steel-reinforced concrete structures with their high and long-term protective features remain unchanged if engineer preparation of command posts can be conducted beforehand.

At the present time, standardized design complexes have been developed that permit the erection of structures for command posts of a different level, including large-bay

structures, for the installation of fixed automated command and control systems equipment. An example: the recently developed UFS-8 structure.

Here the problem consists of the fact that the probability of detection by enemy reconnaissance systems is very high for command posts that have been equipped beforehand. The enemy's guided weapons mean the high accuracy of a munitions direct hit in the structure. The layered protective designs that are being used right now operate according to the principle of passive energy absorption of the strike and explosion of projectiles and aircraft bombs and turn out to be ineffective under the impact of the latest generation munitions.

The most promising direction of the solution of this problem—is the employment of active protective techniques, at the foundation of which has been laid either a change of the trajectory of the falling munition or its destruction or premature actuation.

The threat of the destruction of command and staff vehicles from the upper hemisphere has significantly increased with the appearance of self-guiding munitions (so-called VTO [precision-guided weapons]). A protective-camouflage screen that is installed over the vehicle with a support on the vehicle's body can be an effective means of protection from precision-guided weapons. It camouflages it on the march or in place. When locating the vehicle in a shelter, the screen is transformed into a protective screen after covering it with a layer of soil. It is desirable to have this screen in the TOE instead of the currently existing camouflage kit. The protective-camouflage screen can also be manufactured by employing locally-available materials.

It is a load-bearing frame with a 10-20 centimeter thick ground cushioning layer. The frame is assembled from available lumber in the form of a triangular framework along which brush wood, tree branches, faggots and roll materials are laid. To accelerate the work, the frame can be made beforehand from cut boards that are joined at one end by a clamp.

For ease of erection, you must not put more than 5-6 boards into a single package. It has not been excluded that observation posts will be fired upon by proximity impact fragmentation munitions. In the process, observation post personnel who are located in open-type structures for observation can suffer losses from fragments of exploding projectiles and bombs. The situation does not always permit the erection of closed-type structures, furthermore, no more than 2-3 observers can be accommodated in them. As a result, we need to install anti-fragmentation coverings-trench covers over the positions. For the time being, we do not have authorized designs of these trench covers, although the need for them is obvious.

Moreover, we can manufacture anti-fragmentation coverings from available materials: logs, boards, corrugated steel elements, etc.

A load-bearing covering from these elements is installed on a breastwork over the observation positions and is covered with a 20 cm thickness of earth. A firing port is left for observation. The depth of the observation position must be 140-150 cm.

So, fortifications for command posts are in the stage of development that is caused by changes both in the sphere of their technical equipment and in the sphere of weapons. Considering the importance of the task to ensure command post survivability, the development of modern techniques for their fortified protection must be a priority.

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CIS: AIR, AIR DEFENSE FORCES

KA-50 Said To Out-Perform Apache

93UM0602B Moscow KRYLYA RODINY in Russian
No 3, 93 pp 10-12

[Article by Lead Designer Grigoriy Kuznetsov: "Under the Propeller's Protection"]

[Text] KRYLYA RODINY's first items about the KA-50 evoked an unsatisfactory response from our readers: the account was cursory and there was little data. So, let's continue it with the assistance, as they say, of someone who has seen it firsthand.

Incidentally, they say that the OKB [experimental design bureau] took offense at the headline of our previous article "KA' letayet poka" [The "KA" Is Flying for the Moment]. We think it was to no purpose. It is that heading that alarmed the aviation community: what will happen to the remarkable experimental design bureau and its equipment tomorrow, under the absence of orders and demand?.. In short, steps are being taken. Right now the Kamov designers have taken a course toward creating a joint stock company. And already after the economic revival they will find a way to thank KRYLYA RODINY for the support and the unpaid advertising.

In the Entire Range

As we have already reported, the KA-50 combat strike helicopter is designed to destroy enemy armored, motorized and mechanized vehicles that are covered by air defense. Another no less important mission is combating slow-moving air targets. One pilot flies the aircraft.

We subordinated the design of the KA-50 to the main thing—to create those conditions for the airborne fighter so that he could win duels with enemy air defenses and destroy dangerous targets. The aircraft's entire appearance works toward that: compactness, the convenience of the pilot's placement in the work area, outstanding field of vision of external space, and the location of the instruments in the cockpit that was thought through to the smallest detail.

The country's best aircraft firms developed the weapons aiming, flight control, and navigational systems package. It supports completion of flights during the day and at night in simple and difficult meteorological conditions. When direct contact with the target has occurred, the weaponry is employed using a television or thermal imaging device. The package is based upon modern computer equipment with the level of redundancy required for a strike helicopter for the performed tasks in the event of combat damage.

Special attention was devoted to the KA-50's combat survivability, pilot protection and pilot rescue in an emergency situation. The aircraft's high maneuvering specifications and its power-to-weight ratio "work" on that. The engines are separated from each other to the maximum extent possible. Dust protection and exhaust screening devices have been installed, respectively, on engine intakes and exhausts. The possibilities of fuel exploding in the tanks or of a fuel leak if penetrated by a bullet have been prevented. Vitally important assemblies have been screened by the less important ones. Special fiber glass has been used in the structure of the airframe and the main rotor blades. It preserves its design durability when penetrated by up to 20-mm weapons.

We could continue this list. But the most important thing is: the cockpit is totally armored. The weight of its armor per crew member exceeds that of the U.S. AN-64A Apache two-seater helicopter by approximately a factor of four.

A K-37 ejection seat has been installed in the KA-50 cockpit to rescue the pilot in an emergency situation. Powder rocket engines with static lines have been installed on its back. The main rotor's blades are automatically jettisoned before the chair with the pilot is ejected from the cockpit. The rocket-parachute system's effectiveness has been confirmed in the entire range of altitudes and speeds.

There is no expenditure of power to compensate for the contra-rotating torque of the helicopter main rotor blade's coaxial design. And that provides an obvious advantage over an aircraft with a steering rotor in relation to the greater value of the (by 10-15%) efficiency rating. The power-to-weight ratio and the high efficiency provided the KA-50 with a static ceiling of 4,000 meters and a vertical rate of climb of 10 meters per second at an altitude of 2,500 meters. From this it is quite clear that it can successfully carry out combat missions in mountains and under high atmospheric air temperatures.

High maneuvering qualities are also achieved thanks to the coaxial design, its aerodynamic symmetry and by the airframe's low moment of inertia concerning the vertical and lateral axes of symmetry (on single-rotor helicopters, the moments of inertia are great due to the long transmission, intermediate gearboxes and the steering rotor that are a significant distance from the axes of rotation).

The KA-50, in contrast to helicopters with steering rotors, can carry out a flat turn practically in the entire

range of speeds. This provides a substantial advantage in a confrontation with enemy air defenses and helicopters.

Combat damage to the vertical fairing is not disastrous for the KA-50. And it carried out flights at a speed of up to 200 kilometers per hour in tests with the tail unit removed (as a rule, damage to the steering rotor on a single rotor helicopter results in a catastrophe).

The helicopter is capable of occupying a suitable position to attack airborne and ground targets in a limited amount of airspace in a short period of time. This permitted the designers to mount the 30-mm cannon relatively rigidly near the center of gravity on the right side of the fuselage. Based on the target's elevation, its barrel is inclined in that same range, like the AN-64A's but along the azimuth—up to 15°, providing automatic compensation for the helicopter's course oscillations while aiming and conducting fire.

The KA-50's design solution combined a helicopter's maneuvering capabilities for a rapid turn and rigid mounting of the cannon. This has ensured the cannon's unprecedented accuracy specifications.

The KA-50 cannon's round is almost three times heavier than the Apache cannon's 30-mm round. It has a higher projectile muzzle velocity. Therefore, the effectiveness of the KA-50's cannon does not have any equals among existing combat helicopters. Its selective combat feed permits it to select the most suitable type of round. In combination with accurate firing, this ensures minimal expenditure combat load rounds (the combat load is up to 500 rounds).

Guided missile weaponry is the primary weapon to combat armored equipment on the KA-50. It consists of supersonic antitank guided missiles that are guided by a laser beam with an automatic guidance mode to the target. Accuracy is also very high. Launch range is up to 10 kilometers. Up to 16 missiles are mounted on two movable launchers under the outboard wing.

As we see, the antitank guided missile's firing range and attained resolution of the aiming system permits it to attack ground targets from beyond enemy air defense range and remain invulnerable from its weapons.

The movable launcher ensures firing antitank guided missiles in the field of view of the sighting system guidance device without changing flight speed and altitude. Let's compare: an MI-24 with a fixed launcher gains or loses altitude and reduces or increases speed during sighting and firing of an antitank guided missile. And that is dangerous near the earth and obstacles and in enemy air defense zones.

They can also successfully employ the antitank guided missile on the KA-50 against airborne targets. In this case, the pilot places the switch in the appropriate position.

An airborne target is destroyed with a direct hit or with a near miss. At that time, a radio fuze is set off while flying past the target.

A KA-50 can perform an attack of an airborne target with a speed of up to 600 kilometers per hour on intersecting courses.

An unguided rocket system augments the cannon and antitank guided missiles. It consists of two rocket weapon units in underwing beam brackets. They contain up to 80 80-mm rockets. NAR (unguided aircraft rockets) are used to destroy armored and unarmored vehicles and personnel on the battlefield.

A separate article would be required for a short description of the KA-50's arsenal.

The thermal radiation of the engines has been significantly reduced on the KA-50 for protection from enemy missiles with heat-seeking guidance heads. This has been achieved using exhaust screening devices. A device that fires thermal decoys has also been installed.

The KA-50, like the MI-24, independently searches for targets. Moreover, their detection and identification can be carried out using a reconnaissance helicopter or another strike helicopter (this new combat technique was described in KRYLYA RODINY 9-92).

Based on "cost-effectiveness" criteria, the KA-50 carries out combat missions better than the AN-64A Apache. The flight control and navigational systems package supports carrying out undetected flight to reach the attack point at the lowest possible altitude of up to 15 meters over obstacles. The required flying and sighting information is depicted on the heads-up display for its convenient use. This ensures the employment of weapons at low altitudes with a "raised head".

The modern automated navigation plotting board constantly displays the helicopter's current coordinates in the background of the map terrain depiction. The KA-50 freely moves to any assigned point or returns to the takeoff point.

The KA-50's small dimensions (the length with rotating blades is 16 meters) and the absence of a steering rotor permits it to successfully maneuver, using the natural protective features of the terrain relief—mountains, hills, forest, ravines, and structures.

Protection from weapons and the much improved rescue system in an emergency situation ensures the pilot's required level of psychological-physical stability in a combat situation. This is the guarantee of the successful employment of the new generation helicopter.

Structurally, the KA-50 was built according to a coaxial design with two three-bladed rotors. Self-lubricating bearings have been installed on the rotor control that have eliminated the traditionally unpleasant and laborious work of maintenance personnel.

The search-surveillance system and aiming system apparatus has been located in the nose section of the fuselage. The forward landing gear strut is attached to the lower portion of that compartment. Its main gears are located behind the helicopter's center of gravity.

The tricycle landing gear that is retracted in flight ensures minimum resistance and radar signature. When necessary, flight at very low altitudes without restricting speed can be carried out with the landing gear extended in the event of an emergency landing.

The hydraulic and fuel systems and other systems are located behind the cockpit. The main gearbox compartment is located a bit farther away. The engine nacelles with the modified TBZ-117 engines that recommended themselves well on the MI-24 are located on both sides of it. The engine nacelles are located over the upper surface of the outer wings.

The turbodrives and auxiliary power system to start the main engine are located in the forward section of the fuselage behind the main gearbox.

A fiber glass box-type longitudinal beam along the fuselage is the fuselage's main load-bearing element. The tail unit is mounted to its rear section.

The weaponry, avionics and electronic equipment bays that are covered by cowlings are located along the sides of the loading-bearing beam along the fuselage.

The design solution during the selection of the fuselage's load-bearing design is adequately bold. The fuselage is open to the maximum extent possible for access to helicopter assemblies, systems and equipment without employing ladders. Inspection of the columns of the main rotors is carried out by maintenance personnel from the load-bearing cowlings of the gearbox compartment. There are specially provided areas with a grooved surface and brackets to climb onto the cowlings along the sides of the fuselage.

The amount of periodic and routine maintenance work has been significantly reduced on the KA-50 in contrast to the MI-24. The helicopter can accomplish combat missions autonomously while divorced from the main base for a ten day period. In the process, the operability of the systems and equipment is determined by the pilot using built-in monitoring systems.

This awesome and improved weapon is accessible to medium-skilled specialists but the maximum utilization of the KA-50's capabilities will ultimately depend on the pilot's skill and the aircraft.

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Specifications, Performance of Proposed UTK-YaK Trainer

93UM0642A Moscow KRYLYA RODINY in Russian
12 Apr 93 pp 11,12

[Article by Aleksandr Sorokin: "The UTK-YaK Teaches Them To Fly"]

[Text] The Experimental-Design Bureau imeni A.S. Yakovlev, in the competition that was conducted based on the Russian Federation Air Force task, proposed an enhanced proficiency training suite, beginning from initial training as it applies to mastery of 4th and 5th generation fighter, fighter-bomber, and ground attack aircraft by flying school cadets. Of course, other firms also proposed their similar aircraft but the UTK-YaK—is not simply an aircraft, it is an entire system that is united by a single software package that is magnetic media compatible through information links among all training systems. Display classes and procedural and functional simulators for working out elements of practiced skills and skills are included here. This is a coherent, strictly logically consistent closed system of year-round both theoretical and practical pilot training, and materially it is significantly cheaper—due to the exclusion of a complex and expensive comprehensive simulator with a movable cockpit, a visualization system and so forth from the process.

A high level language for personal computers that is compatible with the IBM PC AT/XT is the software foundation of all training equipment. Under their maximum utilization, the display classes and functional simulators will ensure adequate preparation for training directly in the aircraft which, incidentally, can also be used as a simulator. The compatibility of the programs will permit analysis of the data where it is convenient to do that.

Commonality of magnetic media will permit the transfer of operational information to conduct a flight to ground simulators and display classes and also to accumulate that information for subsequent studies. In the process, the data processing process is substantially simplified which is quite important when there is an enormous quantity of it that the developed onboard system will provide of the objective monitoring of the pilots' activities. Specifically, it consists of video camera monitoring of the placement of the hands, the direction of a glance, the view of the air and internal-cockpit space, and also speech monitoring. A camera can also be installed. All information on the heads-up display will also be recorded.

So, the previous L-39 aircraft is clearly unsuitable here—it is obsolete. A new generation trainer aircraft is required that is an entire order of magnitude higher and is just as modern so that it would be organically blended into the unified UTK system and also one that would have the design-aerodynamic similarity of the 4th and 5th generations and would become the progenitor of an

entire galaxy of modifications for the pilot training program of all Air Force services and air components...

By way of illustration, a training aircraft with a cockpit where the seats are located side by side and two seats behind—for a replacement crew—is required for "long-range pilots". To train naval pilots, the carrier-based UTS must have a folding wing, reinforced landing gear struts, a tail hook and a catapult arm on the forward strut. Furthermore, pilots will be trained in this aircraft as it applies to the SU-27K and MIG-29K aircraft and therefore the corresponding revision is required. The capability must be provided to train at a groundbased complex with takeoff from a catapult or from a ski jump and landing on an arresting device. The UTS-YaK will substantially reduce expenditures to train carrier aviation pilots.

The layout of the YaK's four seater cockpit for long-range aviation suggested one more interesting solution on behalf of the Navy to the Yakovlev designers: the development of a business aircraft modification that has the capability to land on the deck of an aircraft carrier. This aircraft is irreplaceable for efficiently bringing on board high-ranking command personnel. Imagine a distance of 2,000 kilometers—that is a aircraft carrier cruising in the ocean and in three hours you will find yourself on it! Three times faster than a helicopter. That is a worthwhile project.

They envision the use of this aircraft even after its service life has been completely exhausted—as a radio-controlled remotely piloted target that is equipped with an automatic landing system. The low price of this aircraft is obvious.

And now about the very design of the UTS-YaK. Modern design, an aircraft with a totally aerodynamic shape that wind tunnel results have confirmed. With a swept wing (31°), moderate extension, with developed wing extensions, all-moving stabilizer, and a single-finned tail unit assembly. The mechanization of the wing consists of automatically drooping leading edges, Fowler-type flaps, and ailerons. The air intakes are located over the wing extensions which permits the increase of operational angles of attack to 32°. The latter is very important for beginning pilots: due to their inexperience, they permit the aircraft to approach supercritical angles of attack. In this YaK, such a dangerous incident will not result in an emergency situation. A trainer aircraft must forgive the inexperienced for their mistakes in flying technique. During our everyday lives as cadets, we already loved the YaKs for this "leniency".

But then again, this quality of the aircraft is needed not only for the safe rehearsal of skills. It is suitable even afterwards during the mastery of the SU-27 and MIG-29 combat aircraft that are capable of maneuvering precisely at great angles of attack even in an unsteady regime. These flight characteristics are invaluable in maneuvering air combat. The new YaK, in one turn or loop, can emerge from the position of the attacked onto the tail of the L-39: the radius of its turn is twice as small as the L-39's. In the

process, handling is not disrupted. Incidentally, it is beautifully preserved even at low speeds and during takeoff and landing. This characterizes the aircraft well as a trainer aircraft.

The all-moving stabilizer with the irreversible boosters that operate from the ordinary hydraulic system provide the pilot with the capability to closely sense the aircraft's handling; efforts are divided in half between the pilot and the automated system with the pilot having priority.

The capability to reprogram beforehand the characteristics of stability and handling—you can simulate a heavier aircraft (for example, a ground attack aircraft) or a light highly-maneuverable fighter aircraft—are fundamentally new for the UTS. In the event of a reprogramming system failure, the aircraft retains its normal stability.

The power plant consists of two engines, the type of which has been determined for now only for the first stage—the time periods of the program are too compressed and therefore a modernized AI-25TLM has been taken from the L-39. Other variations are possible in the export model. But "Progress" Design Bureau Chief Designer F.M. Muravchenko's brainchild fills the bill for "domestic conditions". This is a reliable engine that has been proven a thousand times over. Of course, some sort of modifications will follow. It completely satisfies the YaKs developers in its power and dimensions. Its total thrust—nearly 3,500 kilograms—seems to be quite sufficient for an aircraft with this mission. In the future, it has not been excluded that Progress designers will propose a new engine. The Yakovlev designers can also obtain it from St. Petersburg NPO [Scientific Production Association] imeni V.Ya. Klimov and good contacts have been established with that design bureau.

The designers also thought about comforts for the crew. The life-support and air conditioning systems create adequately comfortable conditions for the pilots.

Lightweight ejection seats with a reserve time warning apparatus for the pilots have been installed in the cockpits. Ejection is possible at zero altitude and speed. It is carried out through the canopy like in the YaK-141 vertical takeoff and landing aircraft (where it has been tested).

The UTS-YaK is equipped with an anti-icing system.

The onboard equipment suite supports training pilots in the manual and automatic modes, navigation, air combat, low altitude flight, and ground target attacks using modern types of weaponry.

The cockpit interior—is like that of a modern fighter aircraft and its information control field [IUP] approximates the IUP of future combat aircraft to the maximum extent possible and consists of an electronic indication system with a collimating indicator on the heads-up display and two multi-function electronic indicators, a helmet-mounted single visualization and target designation system with a small device that is integrated into the

pilot's ZSh [translation unknown] that is used to work out methods of conducting battle and also in ground simulators. This includes the control panels, multi-function and typical generalized—by weapons simulation and surveillance-targeting systems; and operational combat mode control elements.

A group of electromechanical instruments has been provided for initial training in that same cockpit. And a control panel for entering malfunctions for cadets to rehearse inflight emergency situations procedures has been provided for in the instructor's cockpit, besides the two electronic indicators that duplicate the operation of displays in the first cockpit.

The operation of onboard equipment is supported by a high powered dual computer system. One of the BTsVM [onboard computers] specializes in resolving flight control-navigation tasks and the other—combat-training and operational communications with the ground servicing and training systems.

Recording of parameters in the interests of objective control is conducted in two channels and is transmitted to a central flight control panel. The device permits controlling not only flight techniques but also automates preflight preparation to a certain degree and tracks the technical state of all equipment systems, observance of operational restrictions and many others.

Not only the pilots but specialists of all services who have to prepare it for flight and conduct preventive maintenance work on it should like the aircraft. The level of operating technology and access to all onboard units and systems create ease of servicing. The auxiliary power system provides the capability to start the engine autonomously and to control the systems from an onboard source. Even engine replacement does not require any special complex devices. Only a trolley under the engine is required. Airfield equipment for other types of aircraft can do the job of all of the rest, including the ladder. A technician of any height is capable of reaching every hatch, the filler, pneumatic system components, etc.

The aircraft is designed for long service without failures. The airframe's service life—is 10,000 hours with a subsequent extension to 15,000 hours. With 500 hours of flying time annually—and it is to that intensity of flight that the aircraft has been designed for—the UTS-YaK will hum along in the sky for a full 30 years (The L-39's service life was 4,000 flying hours. Of the thousand aircraft of that type that were accumulated in the ranks, no more than half will remain by 1995 and, well, by the year 2000...).

When will the UTS-YaK continue its track to the lower part of the sky? Under favorable circumstances, the first flight will occur next year. Turn over of the entire complex (UTK) for operation will occur in 1995-1996, series production—up to 1,000 aircraft—the plants will

produce them from 1995 to 2000. That, I repeat, is under attendant conditions. Only financial brakes can disrupt those plans if they are suddenly turned on. But if the "primary budget cutters" take into account the urgent need to reform (and reduce the cost!) of training military pilots and resort to these rational minimal expenditures in order to not pay double later, everything could occur, as by disposition, even faster.

In any case, flying schools are impatiently awaiting the innovation.

The UTS-YaK's Primary Flight-Technical Specifications

Takeoff weight, in kilograms	5,500
Fuel reserve	
—in the internal tanks, in kilograms	1,800
—with a conformal tank	2,500
Maximum speed, in kilometers per hour	850
Ferry range, in kilometers	2,500
Flight angles of attack	up to 32 degrees
Operational G-load	+8, -3
Basing	concrete, dirt G-bkg/cm ²
Takeoff run, in meters	250-330 (concrete-dirt)
Landing run, in meters	425-520 (concrete-dirt)
Service life, in hours	15,000

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CIS: NAVAL FORCES

Political Study Classes Held in Kamchatka Flotillas

93P50240A Moscow NEZAVISIMAYA GAZETA in Russian 9 Jul 93 p 2

[Text] Petropavlovsk-Kamchatskiy—From 5 to 7 July, per Russian Federation Defense Minister Order No. 250, political study classes as part of the so-called "social-state training" system were held on all the nuclear and diesel submarines of two Kamchatka flotillas, as well as surface ships assigned to the Pacific Fleet, for the first time since political activity in the armed forces was banned. This information was confirmed in the Pacific Fleet press center, which declared that "no political or ideological hidden agenda is intended for these study classes."

Sevastopol—A Zone of Possible Conflict?

93UM0665B Moscow MORSKOY SBORNIK in Russian No 4, Apr 93 (Signed to press 26 Apr 93) pp 9-15

[Article by Capt 3d Rank A. Fedorov]

[Text] As I was getting ready for my trip I kept cautioning myself to stay objective as possible, so that even though I was Russian and in Russia, I could correctly understand the situation that has evolved in Sevastopol.

After all, a manifestation of national feelings is not a phantom but a reality, one sometimes capable of overshadowing the arguments of reason. In short, by the time I was taking my seat in a compartment in the Moscow-Sevastopol train, you could say that I had retuned myself to think more as a Ukrainian than as a Russian.

But soon after, reality reintruded itself: At two in the morning I was awakened by insistent rapping on the door—it was time for the document check. Giving only a passing glance to my identification card and paying no attention to my temporary duty orders, an officer in the uniform of a border guard scanned the documents of my fellow travelers just as superficially, and then noisily slammed the door. Then he went to the next compartment, where the same procedure was repeated with the same swiftness. Who needs this nightly show, conducted more for political than for control reasons, and why?

The City

Sevastopol met me with deep blue sky, the bright green of new grass, and mobs of petty speculators and private vehicle owners insistently offering their services. There were no outward signs that this city, the main base of the Black Sea Fleet, had become an arena of political struggle, an object of dispute between different political and national groupings, parties and movements.

What was I to believe: the Ukrainian and Russian newspapers, from which I had accumulated a pile of clippings by this time, or my own eyes, and the unhurried, routine life of this city of labor and war? Meetings with people, interviews with them were the only thing that could help me sort this out.

A neighbor, a Ukrainian man, 32 years old, married to a Moscow-born Russian, two children, a worker at the Sevastopol Naval Plant:

"What good are all of these meetings, politics, autonomy and independence to me! None of this has brought me any more money or happiness. The plant is barely breathing, it pays little, prices are growing, and there are increasingly fewer goods. You can't feed my children sovereignty. Things are hard for Ukraine without Russia, and I don't think that things are so great for Russia either."

A neighbor, a Ukrainian woman, 66 years old, married to a retired naval officer, a Russian; her son—a naval officer serving in Russia:

"They've ruined the country: Only speculators are making any money. There's barely enough in my pension for milk and bread. What am I to live on? Go read the newspapers—Sevastopol has the highest prices in Ukraine. Could you ever have imagined that a kilogram of sausage, and not of the best quality at that, would cost almost 4,000? And as for these coupons, pah! They're not money, they're unreal."

"What are they thinking about up there in Moscow? Sevastopol has always been a Russian city, and they up and simply gave it away to Ukraine. They'll give away the fleet in the same way, but all of this represents living people. They're now trying to Ukrainianize us from all directions: You turn the radio on, and it's all in Ukrainian, the same with television, and on Channel 2 they show a session of the Supreme Council instead of the scheduled movie. Wherever you go, you hear 'Mazepa-Bandera,' 'Bandera-Mazepa'.... You call those heroes?! I spent the war in the Crimea, I was here during the occupation, and I was able to look long and hard at the Germans, the Crimean Tatars and at these 'Bandery.' I looked, and I listened.... Please don't abandon us...."

Representative of the Ukrainian president in Sevastopol Yermakov, Ivan Fedosovich, Russian, former naval colonel of aviation, military plant chief:

"There are several options for the city's development today. If the military do not set up any obstacles, the way the bays and the presently existing mooring structures are situated and the possibility for utilizing existing airfields will allow the city to exist and develop independently. I feel that this is the way it should be.

"Before, Sevastopol was supplied and financed by the Center, and now Ukraine is attempting to do the same. But the city should finance itself, making use of the people living here, the natural conditions and its unique historical and cultural legacy. There are investors ready to invest money into the city's development. Several directions could be singled out here: tourism and recreation, for which over 200 ha of land have been allocated, the monuments and the places of burial of fallen soldiers, and the city's famous English, French and Italian cemeteries. These are precisely the things that bring in foreigners who had been deprived for a long time of the possibility for visiting the graves of their ancestors. This is why we have now allocated 25 million karbovantsy to spruce up the English cemetery. And we are doing this not just to make money—this is a religious matter. Meaning that despite the economic difficulties, we are going to spruce up all of the places of burial.

"The second path of the city's development is also a source of its development—commerce and banking. Establishment of a zone of free entrepreneurship, or a free economic zone in Sevastopol would create great prospects for such things. Moreover Sevastopol, which possesses a port that does not freeze year-round, bays convenient for ships and vessels, and a network of moorings, could become a major center of international trade.

"And third—use of the accumulated military and military-industrial potential, conversion. We need joint exploitation of the moorings, the airfields and some other military facilities. The Ukrainian Ministry of Defense does of course raise the objection that this is a highly sensitive area. But I feel that this is not the real problem. If the city becomes economically independent,

both Ukraine and Russia will have to pay enormous amounts of money for the naval base, which could help to cover the city's budget deficit, now standing at 57 percent. The Ukrainian president knows of our difficulties and of our plans, and the leadership of the Ukrainian Supreme Soviet is also on our side.

"To speak frankly, the fleet is a burden to the city today, even though it does provide some assistance in people and materials. But this isn't the kind of assistance we need. If the fleet were to pay for the use of the naval base, and take part in construction of communications, this would be real assistance, but this kind of assistance is no longer forthcoming, since the fleet doesn't have any money either. Consequently I feel that we can resolve most of the economic and political problems of the city by determining the fate of the Black Sea Fleet. Moreover, adopting some kind of global political decisions at the level of the heads of states is not enough. We need a clear working document determining the fleet's status, and the place of each person in this fleet: What rights does he possess if he remains here as a Russian or Ukrainian citizen, does he have the right to hold on to housing here if he leaves for another state of the CIS, will he be eligible for vouchers, and so on and so forth. This is one side of this issue. The other is purely economical: Who is going to pay for the fleet's maintenance? Who will provide housing to reserve officers who don't have any? Besides this, the fleet anticipates significant reductions, and those who are laid off will have to be provided work, which will require development of the economy—creation of a free economic zone. Moreover a free economic zone would not exclude the presence of a naval base. You don't have to go far to find examples: In Turkey, moorings occupied by warships are peacefully coexisting with commercial wharves. Of course, the territory of the naval base is fenced off and guarded, but no one is afraid of prying eyes. And this base provides 60,000 jobs and 3 billion annual income to the city. Not rubles or coupons, but dollars!

"In Sevastopol, enterprises belonging to the military department employ 36,000 workers, while enterprises of the military-industrial complex employ more than another 45,000. That is, essentially almost half of the city's entire working population. But rather than promoting economic development, the fleet is only causing losses to the city. Returning to the beginning of our conversation, let me stress that the city now has three paths, three sources of development—establishment of a zone of free entrepreneurship, utilization of the unique historical and cultural legacy, and use of the city as the main naval base of the Black Sea Fleet. Executives of the city's industrial enterprises and entrepreneurs are presently opposed to the fleet's presence here—this is hindering economic development, and tying their hands. Still, in principle this development could proceed even in the presence of the fleet. The main thing is for the

governments of Ukraine and Russia to understand that we need to either do away with the usual "supersecrecy" or pay large amounts of money to maintain not only the fleet but also the city.

"We have now drafted a Ukrainian law on the status of Sevastopol reflecting all of our proposals. The matter is now in the hands of the experts and the Ukrainian Supreme Soviet."

Meetings, interviews.... Familiar and unfamiliar faces, friendly glances and cold watchfulness, firm handshakes and stiff nods.... I deliberately avoided debates and arguments, attempting to understand the logic and line of reasoning of each side, of each particular individual. And the more I saw, the more I came to firmly understand that:

first, you won't solve the problem of the Crimea and Sevastopol with any kind of rallies, any kind of references to history, legal acts and common sense; there is only one path—reaching agreement between Russia and Ukraine on the basis of a balance of interests;

second, the interests of the city's and region's inhabitants themselves, rather than the interests of politicians of all persuasions "zealously guarding the national wealth," must be laid at the basis of decisions, and raised to the forefront;

third, attainment of such agreements must not be postponed indefinitely: The problems of Russian-speaking Sevastopol and the Black Sea Fleet have now become objects of political manipulation, and the conflict that is brewing and developing may spill out into the city streets;

and fourth, it would be better for me as a military man not to dig through the debris of big politics, but to try to understand what is going on today in the fleet.

The Fleet

While the life and activities of the city and fleet are of course so intertwined and interrelated that they can only be separated conditionally, this list deals with fleet problems specifically.

MORSKOY SBORNIK has already written about the complexities of the present conditions for maintaining forces of the Black Sea Fleet in a combat capable state, and about the difficulties of repair, manning and material-technical supply.¹ It would therefore not be worth dwelling on this once again. There is another no less important topic of discussion—people. Their life, their work—their fate....

Dear reader! Imagine yourself for just a minute to be an officer in the Black Sea Fleet. You have a family, you have an apartment in the cozy city of Sevastopol, bathed by the gentle rays of the southern sun. Your life is stable and comfortably routine. More accurately—it used to be. It used to be, because everything is now falling apart, breaking at all of the seams—there is uncertainty not only about the fate of the fleet but also about your career

prospects, about all of the rest of your life. You are faced with a choice: being discharged as a result of a reduction in manning, moving to a new place of service in Russia, here on the Black Sea, where no one has promised you anything, or to the Far East or the North, and finally, going over to the Ukrainian Navy, in which the pay is twice as high and you won't have to move anywhere.

This I hope will explain why officers and warrant officers of the Black Sea Fleet—Russians, Kazakhs and Belarusians who care little about nationalistic passions and who do not know the Ukrainian language—are swearing allegiance to the people of Ukraine.²

What is the Ukrainian Navy today? We offer the newspaper FLOT UKRAINY (Ukrainian Navy) and the newspaper FLAG RODINY (Black Sea Fleet) a possibility for speaking out in this regard.

FLOT UKRAINY writes little about the combat and special training of naval seamen, sidestepping the issues.

I found only one specific reference in eight pages of a recent edition, and even that one was critical. On the other hand most of the material is clearly political in nature.

The following appeal was carried in the center of page one:

"Respected citizens of independent Ukraine!

"A new turn in the spiral of anti-Ukrainian hysteria has begun in the Crimea and Sevastopol. Unfortunately the position taken by Ukraine's supreme bodies of state power is not helping to normalize the situation. Imperfections in Ukrainian laws are making it possible to conduct with impunity a campaign to divide our state, including in the mass media.

"Even certain deputies of the Ukrainian Supreme Soviet are participating in this dirty political game. While back in 1990 Vice Admiral Nekrasov, a deputy of the Ukrainian Supreme Soviet, organized the first anti-Ukrainian rallies in Sevastopol, in 1992 Ukrainian Supreme Soviet Deputy Perepadin, chairman of the Bakhchisarayskiy Payon Executive Committee, addressing officers who had come to take possession of a vacation home, threatened the use of the 'Berkut' detachment of the Crimean Republic's Ministry of Internal Affairs and declared that he would dismiss the Ukrainian defense minister from his post and reduce the officer staff.

"We now see that these are not idle threats. Known attempts to remove Colonel General Morozov from his post have already destabilized the situation in Sevastopol and activated the 'Kasatonov faithfuls.' Attacks have resumed against officers of the Ukrainian Navy, and agitation against Ukrainian independence is being carried on, capitalizing on imperfections in Ukrainian laws and the inaction of Ukraine's structures of power.

"We feel that the attempt to dismiss Ukrainian Minister of Defense Colonel General Morozov from his post is the touchstone in the campaign of anti-Ukrainian, antistate forces.

"[Signed] Coordinating Council, Sevastopol Department of the All-Crimean Congress of People's Deputies of Soviets of All Levels."

In these conditions, while the Black Sea Fleet newspaper FLAG RODINY continues to devote significant attention to the problems of combat training, it also does not fail to miss the chance to reveal the negative side of service in the Ukrainian Navy. An example of this is an open letter to the commander of the Ukrainian Navy, Rear Admiral B. Kozhin:

"The Things That I Have Seen," by Senior Lieutenant A. Zhigulev, instructor, diving platoon commander

"On 1 February, 1992 I took the Ukrainian oath. I opted for this after witnessing the unlawful things being done in relation to young replacements called up from Ukrainian territory. I felt then that Ukraine needed us. But what I saw in the organizing group of the Ukrainian Navy changed my views. In your interview on Sevastopol television you said that service in the Ukrainian Navy will be fun and easy. However, what I saw at the Ukrainian Navy headquarters makes me sad and depressed.

"The problem is, first of all, that the Ukrainian Navy headquarters does not exist—there is no staff. Second, the organizing group has officers at its 'important positions' who had not recommended themselves in the best way during service in the USSR Navy. I know this for a fact, because I carried out the responsibilities of the assistant military commandant of the Sevastopol garrison for 3.5 years, and I had dealings with several of them. The impression is created that the navy's organizing group is taking under its wing all who have taken the Ukrainian oath and all who are sympathizers—just for show. Rather than working, officers are spending their time staking claims upon positions that do not yet even exist. This process is developing like a landslide.

"When I arrived at naval headquarters I was asked to go home, and to work at my summer place, because there was nothing for me to do here. There are 400 other people like me in the same boat. And in the meantime, the officers of the organizing group continue to involve themselves in agitation.

"Ignoring decisions of the presidents of Ukraine and Russia, a reserve colonel is privatizing the P. S. Nakhimov School! And he doesn't care at all that almost all of the school's personnel are opposed to such one-sided action.

"But I was startled even more by the story about the seizure of the commandant's office in Sevastopol. Lieutenant Colonel V. P. Zverev had barely managed to finish taking the Ukrainian oath when the Ukrainian defense minister promoted him to colonel. It seems that

all that is required to receive such a promotion is to lock oneself into the commandant's office for the night! During the war, the rank of a fallen commander was awarded to the person who took over responsibility for the life of the soldiers, the one who led the people in the attack. On what grounds are ranks being awarded in the Ukrainian Navy today?! For stealing ships, for seizing the commandant's office and for similar 'heroic tricks' that come awful close to bloodshed!

"I have the feeling that rank and position are the reasons why people are going over to the Ukrainian Navy. The question that begs itself is this: Where is the justice on the part of Ukraine, to which I have pledged my allegiance?

"Comrade Commander, please consider my oath to Ukraine to be null and void."

You can't believe everything newspapers say, especially rival newspapers. Being reluctant to reach any conclusions without hearing out all of the arguments pro and con, I decided to ask a few questions of a representative of the leadership of the Ukrainian Navy.

First Deputy Commander of the Ukrainian Navy Captain 1st Rank Kostrov, Nikolay Mikhaylovich, Russian, previously served in Pacific Fleet submarine forces:

[Fedorov] How do you explain forcing of the pace of establishment of the Ukrainian Navy?

[Kostrov] Despite the decision adopted by the presidents of the two countries to develop tools specifically intended for fulfillment of the Yalta agreements prior to 1 October 1992, the decision has still not been fulfilled. This is why I feel that the process of dividing up the Black Sea Fleet has been dragging on impermissibly. As with every other maritime state, Ukraine has a full right to possess its own naval forces as part of its armed forces. Delays in dividing up the fleet have generated a situation dictating the need for establishing a Ukrainian Navy prior to this partitioning. Moreover the nature of the relations to be maintained between the Black Sea Fleet and the Ukrainian Ministry of Defense has not yet been determined. The command of the Black Sea Fleet occupies a clearly pro-Russian position, although it is continually saying that according to the agreements, it is fulfilling the will of two presidents—of Russia and Ukraine. All instructions of the Russian Federation Ministry of Defense, and primarily of the Naval General Staff, are being fulfilled quickly, efficiently, and without any agreements on the Ukrainian side. As far as instructions of the Defense Ministry of Ukraine—the country in which the Black Sea Fleet is located—are concerned, they are perceived one-sidedly or not perceived at all.

[Fedorov] In what specific ways does this unreceptiveness manifest itself, and what is your view of this interaction?

[Kostrov] Consider for example the situation with school graduates. Those who finished school in Russia are appointed to ships of the Black Sea Fleet. On the other hand those who took the Ukrainian oath and expressed their desire to serve in the Ukrainian Navy find themselves ashore. They have still not been assigned anywhere, even though we have appealed to the command of the Black Sea Fleet and the main command of the Russian Navy several times. Why such a difference? I feel that this is a violation of Article 9 of the Yalta agreements, which states that the agreeing parties shall ensure the civil, political, economic and social rights of servicemen of the Black Sea Fleet who voluntarily join the Russian Navy or the Ukrainian Navy.

At the same time when these lieutenants arrived here, there was no Ukrainian Navy yet: There was the organizing group of officers, who were expelled from the fleet for taking the oath of allegiance to the Ukrainian people. Why couldn't these lieutenants have been considered for appointment to the Black Sea Fleet?

[Fedorov] Has the Ukrainian Ministry of Defense published an appropriately coordinated order appointing these lieutenants to the Black Sea Fleet?

[Kostrov] No, of course not, because all of this was met with so much stiff opposition.

[Fedorov] What do you feel the Ukrainian fleet should be? What in your opinion is the level of the missions it should carry out?

[Kostrov] Ukraine's geographic position is such that the naval forces will not have to carry out strategic missions. The other missions are the same as those possessed by the fleets of other states. The strength of fleet forces will be determined by the missions and by Ukraine's level of economic development.

[Fedorov] Is Ukraine able to create and maintain sufficiently powerful naval forces today?

[Kostrov] I think that all economic, technological and personal problems that exist here today are also familiar to other states that have come into being on the territory of the former Soviet Union. After all, for example, the Sevastopol Higher Naval Engineering School trained mechanical engineers for nuclear-powered submarines of all fleets. It is true that we are not experiencing a shortage of personnel today: Many Ukrainian officers are wanting to return to the motherland. Not only lieutenants but also captain lieutenants and captains 2d rank are in abundant supply. Even today we are lacking slots for 300 persons.

We cannot ensure that officers will be placed today in positions requiring their specialties, but we will not throw our people away: We will offer them other specialties, and allow them to respecialize. We will never tell Ukrainian citizens: "We don't need you anymore."

[Fedorov] Will Ukraine possess large ocean-going ships?

[Kostrov] If you're talking about aircraft carriers and cruisers, that's extremely problematic, though it is fully possible that Ukraine will maintain a cruiser or two.

[Fedorov] Out of what do you plan to form the fleet forces of the Ukrainian Navy: out of ships of the Black Sea Fleet, or newly built ships?

[Kostrov] We are currently forming the Ukrainian Navy out of new ships. But after its partitioning, we will not refuse our share of the Black Sea Fleet. But for the time being, we are not making any attempts to break off a "piece" of the Black Sea Fleet.

[Fedorov] but what about SKR-112 or the Black Sea Fleet's central polyclinic?

[Kostrov] Well, these cases could be interpreted in different ways.

[Fedorov] But what is your personal point of view?

[Kostrov] I feel that the crew had to make its own choice in that situation of "anarchy" that reigned then in the Black Sea Fleet. Had the Black Sea Fleet been serving the interests of Ukraine and Russia not just on paper but in reality, and had the attitude expressed toward those who took the oath of allegiance to the people of Ukraine been different, the Black Sea Fleet would not have had any problems at all, nor would they exist today in the Ukrainian Navy—we didn't receive the establishment until the end of December 1992, after all.

As for the events surrounding the Black Sea Fleet's Polyclinic No 110, people have been coming to us from there in groups and as individuals since long ago: "We want to take the oath of allegiance to the people of Ukraine." All officers took the oath, with the exception of the polyclinic chief. And all four were simply tossed out of there.

Let me interrupt this interview at this point. I have certain doubts. Not because Colonel O. Demurov, chief of the Black Sea Fleet Medical Service, told me not just this story but its prehistory as well, and because I believe this officer, knowing of him not only from what his fellow workers and subordinates have said about him but also from my joint work with him in the Pacific Fleet, and not only because such incidents have already occurred several times both in Sevastopol and in other Black Sea Fleet garrisons, but also because an interesting document fell into my hands. Directive No 38 of the Ukrainian Ministry of Defense dated 30 December 1992:

To Ukrainian Deputy Ministers of Defense, Military District Troop Commanders, the Commander of the Ukrainian Navy and to Chiefs of Directorates, Divisions and Services of the Ukrainian Ministry of Defense

On Including Units and Services of the Black Sea Fleet Within the Composition of the Ukrainian Armed Forces

"In accordance with Decree No 1431-VII of the Supreme Soviet dated 24 August 1992 'On Military Formations in Ukraine' and requirements of the Ukrainian president's 1992 Edict No 209 'On Immediate Measures to Establish the Ukrainian Armed Forces,' and considering that on 1 December 1989 the 126th Coastal Defense Division of the Black Sea Fleet was removed by the Ministry of Defense of the former USSR from the composition of the 32d Army Corps of the Odessa Military District for the purposes of artificially creating the appearance of a reduction in numerical strength of the Ground Forces, and the wishes expressed by servicemen of rear and construction units and services on inclusion into the composition of the Ukrainian Armed Forces,

"I propose:

"1. That the combined units, units and services listed below:

- "The directorate of the Black Sea Medical Service,
- "the Black Sea Fleet Clinic No 110,
- "the 32d Military Medical Board,
- "the 502d Public Health and Epidemiological Detachment,
- "the 736th Public Health and Epidemiological Detachment

"shall be included in the composition of the Ukrainian Armed Forces, and that all forms of pay and material-technical support shall be provided.

"2. That from the moment the directive is signed, all orders and instructions of the Ministry of Defense and Naval Command of the Russian Federation regarding the above large units, units and services shall be devoid of the force of law.

"3. That prior to 5 January 1993 the chief of Main Staff of the Ukrainian Armed Forces shall appoint a reception commission and determine the subordination and procedure of including the listed large units, units and services in the composition of the Ukrainian Armed Forces.

"The deadline for completing the work shall be 20 January 1993.

"Documents are to be submitted prior to 25 January 1993.

"Overall leadership of the commissions shall be assigned to Colonel General Lopata, A. V.

"4. That control over fulfillment of the directive shall be assigned to the Main Staff of the Ukrainian Armed Forces.

"5. That the directive shall be brought to the awareness of the Troop Commander of the Odessa Military District and the Ukrainian Naval Forces and to the chiefs of directorates of the Ministry of Defense and Main Staff of the Ukrainian Armed Forces in its full volume, and to all

personnel of the units and large units to be included insofar as it pertains to them.

"[Signed] Deputy Ukrainian Minister of Defense Colonel General I. Bizhan"

What relationship do Polyclinic No 110 and the entire medical service of the Black Sea Fleet have to the 126th Coastal Defense Division of the Black Sea Fleet mentioned in the directive's preamble? How correct in legal respects is the reference to "artificially creating the appearance," since after all, both sides, Ukraine and Russia, recognized the validity of legal acts of the USSR in their time? Moreover the main thought behind this directive is simple: In order to privatize a unit or a ship without waiting for official partitioning of the Black Sea Fleet, a simple "expression of will" would be sufficient (like in the text of the directive). And as for how to achieve this "expression of will" and how to punish the disobedient, naval representatives of the Ukrainian Ministry of Defense certainly know.

Indicative in this respect is the incident that occurred in Izmail. Fed up with the uncertainty of their status and with the petty faultfinding of local authorities, and tempted by generous promises and a doubling of their pay, officers and warrant officers of a certain rear subunit of the Black Sea Fleet under the command of colonel Ayzman decided to swear allegiance to Ukraine. Ayzman was among the principal organizers, but for some reason at the last moment he reconsidered, and prohibited taking of the oath on unit territory. His subordinates took the oath in another military unit, while serious steps were taken against Ayzman: An inspection hastily conducted in the unit revealed a mass of violations, up to and including storage of commercial goods on depot territory.

I'm not going to judge either Ayzman himself or his deeds—competent organs will deal with him. But the actions and position of the Ukrainian Navy are rather unsightly. Did Ayzman's subordinates really learn of all of the violations only after taking the new oath? Or had the commercial goods been brought in on that same historic date?³

Returning to the question as to what the Ukrainian Navy is, I must assert that for the moment it is nothing but a name, and an extremely politicized one at that. It is a toy in the hands of the politicians. And while names are sufficient for Ukrainian politicians and diplomats playing the Ukrainian Navy like a trump card, Black Sea Fleet officers need warships, career prospects, and so on and so forth—all of the things without which normal fleet service would be unimaginable. I am of course referring to officers who have become accustomed to honorably fulfilling their military duty, rather than to intrigues and to looking for cozy jobs.

It is the conscientious, those who are unable to pretend to be something else to suit the moment, who are suffering today more than anyone else. Is this really just?

"Pacifist 3d Rank," Russian, 33 years old, married to a Ukrainian, officer of the Black Sea Fleet, Captain 3d Rank:

"Let's make it clear right off that while I'm not yellow-blue, I'm not white-blue-red either. Most likely I'm a pacifist. A pacifist, if you like, 3rd rank. To me, the main thing is to avoid bloodshed. Consequently I will be doing everything in my power to see that it does not occur, and if it cannot be avoided, I'll leave the service.

"The only thing you ever hear today from all sides is: 'Are you for the "whites" or the "reds"? Are you for Russia or Ukraine?' I'm not for anyone! I had no choice: My son is ill, and the doctors prescribed the Crimean climate—that's how I wound up in the Black Sea Fleet. I've now received an apartment. Such that I have no intention of leaving the area. If they force me to leave the fleet, I'll go, but I won't participate in the conflict.

"It is very difficult to serve in the Black Sea today. It may be a health resort area, but we still receive the same money as, for example, in Moscow—20,000 there and 20,000 here, but there they get rubles, while here.... Here we get coupons. And the value of one such coupon is 30-40 kopecks on the black market. So it happens that we actually receive 2.5-3 times less. It doesn't look any better when the pay is compared with the prices of the principal goods—once again the comparison is not in our favor.

"But everything pales and fades away on the background of the uncertainty and lack of prospects under which we have been existing for over a year. Who are we? What are we? What state are we serving in? What country are we citizens of? There is a Russian Navy, and there is a Ukrainian Navy—there, everything is more or less clear and understandable....

"The agreements signed by the presidents are nothing more than declarations of intent, and under no circumstances are they a treaty that defines the status of each of us, or our civil rights. And while Russia has given up on us and Ukraine is attempting to get its hands on what is left of the Black Sea Fleet that is battleworthy, no one is showing any concern for us officers and warrant officers. This means that we have to take care of ourselves and our families, we have to organize our life ourselves.

"Meaning that I don't want to fight either the 'whites,' or for the 'reds,' or even for the 'gray-brown-purple.' I'm for myself. I am a pacifist 3d rank."

Of course, far from all officers and warrant officers maintain such a position—there are also many who are ready to enter into an uncompromising struggle in behalf of Russian or Ukrainian interests. But alas: While such "pacifism" is contraindicated in relation to all armed forces in general, an active desire for confrontation on the subject of the Black Sea is absolutely against the national interests of both Russia and Ukraine. And what is happening today in the Black Sea Fleet is doing serious

damage both to the defense capabilities of the two states and to the legacy Black Sea seamen received from their predecessors.

"Cui Prodest?"

They say that this was the question the Ancient Romans asked when trying to learn the causes of an incident or to find the person responsible. "Cui prodest?"—"Who stands to gain?" Looking at the big picture, no one stands to gain from destabilization of the situation, disintegration of the fleet and demoralization of primarily the officer corps. But unfortunately, some politicians are not thinking ahead. And while Russia can't find the time or the energy, the other side is not above "catching fish" in the turbid waters of political passions.

The history of the development of human society persuasively shows that as a rule, most of the population is apolitical as long as politics do not invade into the sphere of the vital interests of the man in the street or place him at the brink of survival. But if this happens, the society's politicization is as hard to control as it is swift—they know this quite well in both Moscow and Kiev. It is one thing when an unarmed, poorly organized mob becomes the subject of politics, but an entirely different thing when it is the fleet. No one would hardly dare predict the consequences of a hypothetical conflict.

As I see it, a joint fleet or a fleet united by a common operational and military organizational administration would satisfy the interests of the two peoples to the greatest degree. If it took the practical experience of a year of confusion and deepening crisis in the economy to persuade ourselves of the unsuitability of economic separateness, how much practical experience will convince the blockheads of the danger and criminal nature of military-political separateness?

Consequently Ukraine and Russia must intensify the negotiation process right now, without waiting for 1995, laying a balance between the interests of the two states, the two peoples, at its basis. This negotiation process must be accompanied by the adoption of the corresponding documents defining the status of the fleet (or fleets), the status of servicemen, their families and persons discharged from military service, and determining the legal guarantees that this would all be observed.

In order that Sevastopol and the Black Sea Fleet would not become a zone of another international conflict in our Commonwealth, in order that the opposition and "confrontation" of interests would not transform into a confrontation between armed groupings, this opposition must be replaced in the immediate future by a balance of interests, by civilized and respectful consideration of the opinions and needs of each of the two states.

But Russia keeps dragging its heels.... In January 1993 the ratio of the numbers of young seamen called up as replacements from Russia and Ukraine was estimated at 1:9. And it is not Ukraine, which sent the strictly

stipulated number of conscripts to the Black Sea Fleet, but Russia, which failed to fulfill this plan, that is responsible for this.

But Russia keeps dragging its heels.... In the meantime some are already trying to force us to forget the heroic past of Sevastopol, a city of Russian glory, and openly suggesting with no embarrassment: "All we need to do is change just one word, and the song will sound so nice:

"Legendary Sevastopol,
Impregnable to enemies!
Sevastopol, Sevastopol—
The city of glorious seamen!"

Perhaps then we should actually replace "glorious" by "Russian"? We are already have experience, after all, in the Baltics and in the Transcaucasus, where it is difficult and sometimes even dangerous not only to be Russian but also to be Russian-speaking.

What do they think about this in all of the branches of Russian government?

Footnotes

1. MORSKOY SBORNIK, No 3, 11, 1992 and No 2, 1993.
2. Incidentally, as Ukrainian Deputy Minister of Defense Lieutenant General Anatoliy Lopata reported in a speech to officers of Sevastopol schools, Russians represent 75 percent of the total number of officers in the administration of the Ukrainian Ministry of Defense, and 57 percent of the entire officer corps.
3. According to data received from the headquarters of the Black Sea Fleet, no evidence of mercenary motives was found in the actions of Colonel Ayzman. He was offered a new position, but he refused it, and submitted his application for discharge into the reserves.

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CIS: REAR SERVICES, SUPPORT ISSUES

Russian Army Considers Expanded Environmental Role

93WN0471C Moscow IZVESTIYA in Russian
17 Jun 93 p 6

[Article by Viktor Litovkin: "Ecological Defenders Have Appeared in the Russian Army"]

[Text] On 16 June the Association of Military-Political and Military-Historical Research and the international federation of peace and accord jointly with military personnel conducted a round table entitled "Ecological Safety and the Role of the Russian Army in Ensuring It."

The president of the association, Major-General (Res) Yuriy Kirshin, told the IZVESTIYA correspondent that representatives of the public, scientists, specialists, and officers had assembled in order to formulate a uniform

policy in the fight against the ecological threat which may become the greatest danger to the life of all mankind in the very near future. And to fight against it we have to have not only our own experience but in addition rely on international cooperation.

Officer of the General Staff of the Armed Forces of Russia, Colonel Alevtin Yunak, informed me that last year a special directorate which works on problems of ecology had been created in the Ministry of Defense. There are now representatives of the ecological service in the headquarters of the various branches of the armed forces, combat arms, and districts. And there are ecological inspectors in formations and large strategic formations. But for now there are too few of them—250 people, and the tasks are very serious ones.

The soil and territories of test ranges, firing ranges, air fields, tank training areas, warehouses, and arsenals have to be purified of various pollutants. This year alone the military ecologists gathered about 2,000 tonnes of various metallic wastes at the space port in Plesetsk, but only God knows how much of it is at the Kapustin Yar test range, where experiments with missiles and planes were conducted and field firing of air defense troops went on for more than 40 years. And there are Baykonur, Emba, and other large territories which need to be cleaned up, have the data recorded, and returned to normal natural life activity too.

We must recycle around 100,000 tonnes of rocket fuel during the destruction of ballistic and strategic missiles under the SALT-1 and SALT-2 treaties. A component of that fuel such as heptyl is very toxic in nature. And as yet there is no technology to do this. There are the problems of eliminating radiological contamination in the northern and far eastern seas, burying liquid and solid radioactive wastes, and liquidating 40,000 tonnes of chemical weapons. All this requires not only enormous capital but in addition a scrupulous professional approach, reliance on international experience, cooperation with science and the public, and special knowledge.

The army at present is not training ecologists, but they face this challenge in all its magnitude. The round table conducted jointly by scientists and representatives of the public should in many respects help meet it.

Col-Gen Zazulin on Future Needs, Demands for Motor Vehicles

93UM0657A Moscow KRASNAYA ZVEZDA in Russian
6 Jul 93 p 2

[Interview with Col-Gen Nikolay Afanasyevich Zazulin, chief of the Main Motor Vehicle Directorate of the Russian Federation's Ministry of Defense, by KRASNAYA ZVEZDA correspondent Oleg Vladyskin under the rubric "Military Organizational Development: A View of the Problem": "On What Will the Army Travel Into the 21st Century?"]

[Text] The well-known expression that the motor vehicle is not a luxury but a means of travel is perhaps indisputable in the army as nowhere else. And its use in the day-to-day functioning of the forces will increase even more in the future, since Russia's international commitments are forcing it to limit the number of its armored combat vehicle to a certain level, while increasing the portion of conventional wheeled chassis as the basic chassis for armaments. This naturally raises the question of what features the basic motor vehicle chassis in the army must have in the years immediately ahead and in the more distant future. Our correspondent interviewed Col Gen Nikolay Zazulin, chief of the Main Motor Vehicle Directorate of the Russian Federation's Ministry of Defense, on the matter.

From the KRASNAYA ZVEZDA file: Nikolay Afanasyevich Zazulin was born in 1934 in the settlement of Sebrovo, Stalingrad Oblast. He completed the military motor-vehicle school in Ordzhonikidze in 1957 and the Military Academy of Rear Services and Transportation in 1965. He has commanded a platoon and held various technical and engineering positions in the army and navy and in the Administration and Management Directorate and the Main Motor Vehicle Directorate of the Ministry of Defense of the USSR. Since October of 1991 he has served as chief of GLAVTU [Main Military Transport Directorate] of the Russian Federation's Ministry of Defense.

[Zazulin] Our scientists have defined the main trends in the development of military transport equipment and forecast its technical specifications to meet the requirements of the year 2000. These indicators are based on a thorough study of our motor vehicle manufacture and the capabilities of the nation's industry, the future needs of the armed forces for various vehicles and foreign experience. We calculate that the overall effectiveness of motor transport produced to meet military needs will have to be increased 1.5- to 2-fold by the end of the decade. The technical level of the future basic motor vehicle chassis must conform to the new combat capabilities of the armament and military equipment mounted on them.

[Vladykin] Nikolay Afanasyevich, could you give us a more detailed description of these requirements? How will the operating features of the motor vehicles be altered as a result of meeting them?

[Zazulin] First of all, I would say that greater demands are being made with respect to the mobility of basic motor vehicle chassis for armaments and military equipment, primarily the indicators of average speed and cross-country mobility.

In the second place, I would mention adapting them for military conditions, that is, reducing the amount of work required for their technical maintenance, and making them ready for use within a minimal period of time.

In the third place, it will mean reducing the likelihood of their detection by enemy intelligence and enhancing the protection of their crews and the equipment on them.

The need to fulfill these requirements is forcing us, together with industry, to seek new technical solutions.

For example, work is underway on new classes of multifuel diesel engines meeting modern conservation and reliability specifications and equipped with systems for controlling and monitoring operating conditions. Our scientists have developed devices for warming up the engines, which make them ready for use in temperatures of -50 degrees within 10-15 minutes. In the civilian economy today this frequently takes more than 40 minutes at temperatures below 30 degrees.

Not surprisingly, civilian specialists are also taking a big interest in this work, especially those of the Far East, Siberia and the Far North. We willingly make our information available to interested organizations and departments. We are well aware that the extensive adoption of our designs would save the civilian economy a lot of money. Right now, during the cold season, tens and hundreds of thousands of vehicles idle in parking areas, a way in which the drivers safeguard themselves, because the engines will not always start after they have been turned off. Tons of fuel are being burned actually to no purpose.

We are endeavoring also to improve the equipment of the operator's work station with instruments for diagnosing the technical state of the vehicle. We want the operator to have a more complete idea of how all of the motor vehicle's systems are functioning, be more confident of their reliability and be able to detect any deviation from the norm. We are designing motor vehicles with built-in diagnostic systems for this purpose.

Minicomputers are already being installed on some experimental models of the more complex motor vehicle chassis. Their use has made it markedly easier for the operators to assess the operating conditions and the technical state of the various assemblies and systems on the vehicles without leaving the cab. In addition, incongruous as it seems, this has also resulted in extra savings. The adoption of generally expensive electronic equipment has made it possible considerably to reduce the number of breakdowns of the various assemblies and systems on the vehicles and to extend their operating life by servicing and repairing them in good time. Suffice it to say, as an example, that the premature breakdown of the engine on a powerful motor vehicle, necessitating a major overhaul, costs more than it costs to equip the vehicle with an on-board computer.

[Vladykin] You have also mentioned specific, purely military requirements of the motor vehicles. In other words, having to do with protecting the crew against injury from weapons....

[Zazulin] Yes, and we are working on that. Our designers have made available to the industry special modular cabs

which should protect personnel against weapons of mass destruction. The data which will be used for this were tested in the area of Chernobyl, on busses hauling emergency crews to the 4th reactor. Monitoring showed the radiation level in them to be only one third the level out in the open.

[Vladykin] And what about mines? They accounted for most of the loss of life among drivers in Afghanistan....

[Zazulin] The modular cabs are designed to protect also against mines. Other means are being employed as well. So-called local protection, for example. You no doubt know that many of our operators in Afghanistan took armor from BTR [armored personnel carriers] knocked out of action and placed it on the floor in the cabs of their KamAZ, Ural and other vehicles. We considered this experience as well. Something of the kind is now being manufactured at the plant, which, if necessary, can be installed on a vehicle by means of brackets.

[Vladykin] The technical specifications set for the producers by GLAVTU and the developments of the military scientists have more than once served as a sort of stimulus to industry and helped to accelerate the process of producing new and more modern vehicles. What improvements in motor vehicles do the military vehicle manufacturers see in the future at this point?

[Zazulin] We shall devote our attention primarily to the technical level of special wheeled and tracked chassis for missiles and anti-aircraft weapons. We consider it important to standardize the military multipurpose motor vehicle equipment. One of the ways to resolve this problem is to create a class of motor vehicles on highly unified chassis and assemblies, which will eliminate a number of problems resulting from the multimodel pool of military vehicles, make it possible to outfit the military units with the products primarily of a single plant and reduce the list of spare parts and operating materials.

We are in the process of implementing numerous worthwhile ideas involving the use of nontraditional component combinations, suspensions and control systems. We are striving to increase the number of assemblies and devices which do not require servicing during the vehicle's operation. A number of combat capabilities incorporated in armament models displayed at an exhibition in Abu Dhabi were made possible by original design developments. It goes without saying that these developments will find a use in the civilian economy.

[Vladykin] The plans are certainly impressive. We know, however, that the funds allocated for NIOKR [scientific and experimental design work] are extremely limited. Will you be able to implement all of your plans in this situation?

[Zazulin] The shortage of money is a problem for everyone, and not just for military science. Unfortunately, we are not going to escape this problem within the next few years, since the nation's economy cannot be improved overnight. We are therefore seeking ways to

implement our plans in the situation which we are in and which we will continue to be in for the foreseeable future. With respect to the other asset needed for successful research, however, we have no problem there. I refer to our scientific capability.

Four years ago the Ministry of Defense's GLAVTU set up a special regional council at its NII [scientific research institute] with the authority to approve dissertations for the candidate's degree. Prior to that we had only one or two new candidates of science in our field a year at best, whereas we now have 10-12. There are plans for 14 applicants to defend their dissertations in 1993. Furthermore, all of the projects being submitted have a practical yield and a clearly expressed applied nature. Many of them are being rapidly incorporated into specific design developments and are being incorporated in important technical solutions or in progressive operating methods. Our capabilities in this area are inexhaustible. After all, the average age of military candidates of technical sciences working on motor vehicle problems is 38-40 years.

Staff Conference Discusses Reforms, Future of Rear Services

93UM0687A Moscow KRSNAYA ZVEZDA in Russian
13 Jul 93 p 2

[Article by KRSNAYA ZVEZDA correspondent Petr Altunin: "Rear Service Reform: What Does it Give the Soldier?"]

[Text] We have already reported that an conference of administrative personnel of the Rear Services of the Russian Federation's Armed Forces was recently held. It discussed pressing problems of present and future rear service support for the troops and naval forces.

Here are some comments by our correspondent who attended the conference.

Lt-Gen Aleksandr Zuyev, Chief of the Rear Services of the VDV [Airborne Troops], has firsthand knowledge of landing operations. He was in Afghanistan and has 163 parachute jumps to his credit. Speaking of the need to bring rear service operations into proximity with the support for the combat training of the units and subunits and the actual support of the mobile missions, he had the following to say:

"The only headache the enlisted man and the officer should experience should involve not food, equipment or keeping warm, but only how to accomplish the mission in the best possible way. During the war the soldier did not look for food; the food found him—in the trench or shelter. We still have the tendency to place the entire burden of meeting the vital needs upon the soldier, however."

The general summoned an airborne troop in the full gear, "standard" equipment attached on all sides. Listing all of the items on the soldier, he summed it up thusly:

"Seventy kilograms. Is it surprising that the soldier immediately discards half of it? If there were absolute certainty that logistics would not lag behind during a landing operation, we could perfectly well get by with 18 kilograms...."

Where should the Rear Services be located during exercises, and if necessary, in a war? And what should be their scope? At the conference and in the practical and scientific conference held in the process, Col-Gen Vladimir Toporov, deputy defense minister of the Russian Federation, commented that many thousands of Russian troops are presently taking part in peacekeeping operations alone. They are frequently moved in practically under alert, and in those cases the combat and the rear service subunits are on the same line. The only conclusion is that Rear Services today must be mobile.

Taking care of the personnel is the prime mission. At the present time, however, it was stressed at the conference, the matter of supplying the troops with fuel is the most acute and pressing problem. For the army it begins with the receipt of the quotas. During the first six months the needs of the armed forces were met by only 70 percent, but present allocations are sufficient to pay for only half of the rations of petroleum products needed. Naturally, the army and navy, like the nation, are on semistarvation rations today. Positive trends are in evidence, however. Unlike the situation a year and more ago, the aircraft are flying, the tanks are overcoming tank ditches, and the motor vehicles are hauling in food and fuel.

The fact that fuel sells as a hot item in the market continues to make itself felt, however. A telegram goes out from the Black Sea Fleet, for example, requesting permission to sell 100 tons of fuel for the benefit of the combat training. The response: If there is an urgent need and extra fuel, go ahead and sell it. The ink is barely dry on the first telegram, however, when a second arrives: Let us have 100 tons of fuel. We have no way to get the guards to their posts.... There have been similar cases in the Northern Fleet and the Moscow PVO [Air Defense] District.

Despite the shortage of fuel and lubricants, some commanders (the DVO [Far East Military District] and the TOF [Pacific Fleet]) forget about conserving them, forget that they need to make efficient use of the simulators and take proper care of the equipment, which uses almost twice the standard amount of fuel because of its disrepair.

The territorial system of rear service support which has been discussed in the newspaper is designed to eliminate these and other problems. On the broad scale it fits into the contemporary state policy of granting greater authority to the regions—with respect to obtaining resources, among other things. The minister of defense has issued an order to that effect. The new approach essentially involves improving the provisioning of the military units with all the items to which they are entitled and simplifying the system for delivering food, uniforms, medicine and construction materials. For this

purpose it has been decided to set up rear service supply centers (TsTO) on an experimental basis this year in the Moscow Military District.

This newly established element is granted greater independence. The commander is directly subordinate to the district rear service chief. He is issued money to purchase materiel. He is close to and in contact with the suppliers, and he considers the benefit and concludes contracts of purchase with them. The various supply bases will be turned over to it, and it will in turn provide all types of supplies not just for "its own" district subunits but for units, installations and enterprises located within the region, regardless of their subordination.

A debate immediately developed at the "work site" and was then moved to the meeting hall. Numerous questions were raised. Would the command elements of the troop arms turn their rear service subunits over to the center entirely? Would the center be objective and provide "its own" and "others" with everything they had coming to them. There were also "refuseniks," of a sort. The Moscow PVO District was opposed to being merged into these structures....

Lt-Gen Vladimir Churanov, rear service chief for the Russian Federation's armed forces, told the conference that the questions raised were being worked out, that adjustments would be made in the organization of the territorial system, taking into account the suggestions of the conference participants.

Adjustments were also necessitated by the fact that waste and theft have become a scourge in the Rear Services of late. The loss caused by these amounted to 240 million rubles for the past year, and, as Lt-Gen Boris Kopytov, deputy chief of Rear Services, noted, it has become twice as profitable for criminals to steal. Even when it is determined that a few tons of fuel or dozens of the three-quarter length sheepskin coats have been stolen, as an example, months pass while the investigation is conducted and the thief smiles as he pays the amount of compensation set for the loss based on the findings of the investigation, because it represents only a tiny fraction of the proceeds he has already gained from his business....

There is hope that property security will improve when the rear service subunits are manned with contract personnel. Right now, there are more applicants to serve at the depots and bases than in the motorized rifle and tank companies. Among them, initial experience has shown, are many drunks, unscrupulous characters.... We will have to get rid of these at once.

We can see that the range of concerns with which the rear service of the armed forces operates today is extremely broad. They are a part of the military reform and are designed to contribute to its successful implementation.

INTERREGIONAL MILITARY ISSUES

Agreement With Russia Needed on Missile Maintenance

93UM0691A Moscow KRASNAYA ZVEZDA in Russian
14 Jul 93 p 3

[Article by KRASNAYA ZVEZDA Correspondent Anatoliy Polyakov, Kiev, under the rubric: "Events and Commentary": "Leonid Kravchuk Visited the 43rd Strategic Missile Army: Ukraine Needs an Agreement With Russia in Order to Maintain the Missile Complexes at Combat Readiness"]

[Text] Ukrainian President Leonid Kravchuk visited the 43rd Strategic Missile Army facilities at Vinnitsa and Khmel'nitskiy that Ukraine has administratively subordinated to itself.

Both the president himself and the "official" television reporters that accompanied him attempted to convince television viewers on Saturday that there was complete order at the launchers and in the military collectives. However, in fact, judging by everything, this is far from so. Of the 64 plants that previously supplied various equipment to maintain the missile complexes at constant combat readiness, there are only nine in Ukraine. All ties have practically been broken with the rest. It's clear that it's hardly possible to ensure the completeness of the technological process and the timeliness of its conduct under these conditions.

Yes and because, as Leonid Kravchuk made comments at various stages of the visit of the missile positions, it was noted that his optimism was significantly diminished. The shortage of housing, salary problems, vague prospects as a result of reductions, and the main thing—disruption of the missile maintenance technological process—issues which apparently are too much even for the president.

So, it wasn't out of curiosity that Leonid Kravchuk listened to Army Commander Lieutenant-General Vladimir Mikhtyuk's report, descended into a missile silo, and met with the generals and officers. Having taken the strategic forces under their tutelage, the Ukrainian leaders have obviously taken on more than they can handle. And therefore Kravchuk stated the need for the most rapid conclusion of an agreement with Russia to ensure proper maintenance of the missile complexes.

BELARUS

Belarus To Negotiate With Firms on Destruction of Munitions

93UM0660A Moscow KRASNAYA ZVEZDA in Russian
3 Jul 93 p 6

[Article by Valeriy Kovalev: "Belarus: Salvaging of Munitions on the Agenda"]

[Text] Belarus has inherited tens of thousands of tonnes of various munitions, artillery rounds, aerial bombs, mines, grenades etc. from the former Soviet Union. For many of them the technical service life has run out, and many of the munitions are for weapons which have been removed from operational status. The question of what to do with this enormous and unsafe arsenal has arisen. Should it be gotten rid of by demolition? This will require billions of rubles, and will also do serious harm to the ecology. The development of modern waste-free technologies and the creation of the corresponding production capacities for salvaging will take years, and again will require major appropriations which the republic now simply cannot afford.

In its search to resolve the problem, the Ministry of Defense of the Republic of Belarus has studied a number of proposals from foreign companies in England, France, the U.S. and Switzerland. In the opinion of specialists, the most optimal variant was proposed by the American company "Ellient Techsystems." It is one of the main developers of munitions for the U.S. armed forces and has worked in parallel for more than 20 years on problems of their salvage. The FRG has already used its services in this field. According to the Deputy Chairman of the Scientific-Technical Committee of the Ministry of Defense of the Russian Federation, Col Viktor Novikov, the military department of Belarus is currently holding talks with the American company. If they are successful, and the matter reaches this point, "Ellient Techsystems" will deliver the reprocessing technology and the necessary equipment to the republic, set it up and adjust it, train Belarusian specialists, and safeguard the security and ecological cleanliness of the work. The Americans promise to "strip" all unnecessary munitions in three or four years. In the process they promise Belarus a tidy profit, around 7-8 million dollars. In addition, when it has the modern technology for salvaging munitions, the republic will be able to fill orders for other countries which want to get rid of dangerous surpluses in their arsenals. And this will mean new additional income.

BALTIC STATES**Defense Forces Chief Aleksander Einseln Profiled**

934K1472A Tartu POSTIMEES in Estonian
1 Jun 93 p 3 (Foreign News Supplement)

[Article by Kalev Vilgats: "Colonel Aleksander Einseln Plans To Strengthen Estonia's Defense Forces Against Possible Threat From Russia"]

[Text] The appointment of retired U.S. Army Colonel Aleksander Einseln, an exiled Estonian, to the position of Commander of Estonia's Defense Forces caused a minor storm in the United States. The resolution of Estonia's State Assembly, passed with 82 votes, was by no means seen in the same light. Being in the United States at the time, I had an opportunity to observe reactions from the U.S. military, in addition to those from the media, because I spent close to a week at the Norfolk military base.

Some Things More Important than Money

Covering the appointment of Col Einseln, the American media noted that, in addition to his U.S. citizenship, he stands to lose his \$50,000 a year officer's pension. This is hardly a small amount, especially since Estonia could not begin to pay anything like it. At the same time, a high ranking military man told POSTIMEES that to Col Einseln there are things more important than money. Even though Americans value the dollar, military people there have a pretty good idea what motivated the Estonian-born colonel to accept the position in Estonia.

All the newspapers mentioned that Einseln and his family had to flee Estonia in 1944, when the Red Army annexed our state. Not any less important to a military professional is the fact that, as THE SUN newspaper put it, Aleksander Einseln plans to strengthen Estonia's Defense Forces against a possible threat from Russia.

State Department Not Happy

The news about Aleksander Einseln's appointment was carried by all major newspapers and wire services. Understandably, the reaction of the U.S. State Department had to follow. I have a press summary dated May 7 that was circulated at the Foreign Press Center in Washington.

This, with references to AP, has also been cited in our media, but not always true to the original. Thus, State Department press secretary Joseph Snyder told media that Einseln accepted the position without clearing it with the Secretary of State. According to U.S. law, U.S. military personnel, including those retired and those on active duty, must seek clearance from their agency chief as well as the Secretary of State, before accepting a position from the government of a foreign state.

According to Snyder, the chief of land forces had given his permission, but the Secretary of State, "who has to evaluate the consequences of this appointment from the

foreign policy point of view" had, "after long deliberations", decided to deny Einseln's request earlier this year.

At the same time, the State Department had to admit that Einseln had submitted his request twice, later even to President Bill Clinton, with a cover letter from Lennart Meri. But, to no avail. Col Einseln has been acting, with U.S. permission, as consultant to the president of the Republic of Estonia since the beginning of 1992.

Einseln's Case is Unprecedented

In early May, according to Joseph Snyder, the U.S. administration took no position on the Einseln matter, even though assurances were made later that the whole matter would be dealt with very carefully.

As far as the law is concerned, the U.S. government can take certain steps against Einseln, but is it worth it?

Snyder told POSTIMEES that accepting a position in a foreign government would be enough for Einseln to lose his citizenship. Such appointments have always been reviewed individually by the U.S. government. Besides, nothing like this has ever come up in U.S. practice. Snyder mentioned that, according to the law, it is not all that simple to go against Einseln. In private conversations at the State Department, POSTIMEES was told that Estonia may have been the first to make an appointment, but U.S. officers have become consultants elsewhere. Among examples cited were officers of Hungarian descent involved in the government of Hungary, and U.S. General Shalikashvili, who has talked about problems in his home country.

By the way, originally, the U.S. constitution forbade American officers to accept positions abroad without the consent of the Congress. In 1982, an amendment was passed making it possible with the consent of the appropriate service branch and the Secretary of State.

Court Action Not Likely

In one of the interviews he gave POSTIMEES, Col Einseln said that only time will tell what his conflict with the Clinton administration will lead to. "Even if they take my pension, I can still go to court and get it back. This is something between me and the United States government."

Snyder said it is not at all certain that there will be a court case. He emphasized, in particular, that neither a no-answer nor a yes-answer has been received. Taking the case to court will take an inordinately long time, just to work out the procedural requirements. And even if it will go to court, it would be handled by the U.S. Department of Justice. The spokesman for the State Department added that, on the citizenship issue, the only difference between an ordinary American and Einseln is that Einseln, as a retired officer, accepts the position as commander of foreign forces.

The colonel's own assessment is that the whole thing is blown out of proportion.

United States Afraid of Russia?

The State Department expressed concern on the part of the U.S., because "some measures may give a wrong idea of U.S. intentions in the Baltic Sea region." This vague statement had to be explained later. Thus, the journalists found out that the Clinton administration is concerned because a retired U.S. Army officer will be commanding Estonian forces.

The State Department did admit, however, that the U.S. shares Estonia's concern about its security but, at the same time, it must also consider other states in the region.

Obviously, Snyder did not specify which states of the Baltic Sea region may be concerned about Einseln's appointment.

Paul Goble, the former chief of State Department's Baltic bureau, told in his interview with THE WASHINGTON POST, that Einseln's request was denied because of Russia's possible reaction. Namely, Goble had said, some Russian officials in Moscow had voiced their concern about an American being in charge of the defense forces for a country neighboring Russia.

Changes Expected in the Defense Forces

No doubt about it, even though Col Einseln has had words of praise for some of the senior officers. Einseln has promised to build up an army that is outside of politics and capable of defending the state against external enemies.

Sooner or later changes will have to be made or, as the weekly MOSKOVSKIYE NOVOSTI put it: "The former Soviet officers will have to change their way of thinking: Those who cannot do it, must get out of the defense forces."

In my opinion, there is still plenty of Soviet thinking and treatment of soldiers within the defense forces, examples of which abound in the media.

Interest in Col Aleksander Einseln continues abroad. The entire tour of Läänemaa made by the new commander was recorded by America's ABC television network.

Service record of Colonel Aleksander Einseln

Born 1932.

In 1944, along with his mother, fled Tallinn from the advancing Red Army. Lived in Germany for five years, emigrated to the United States in 1949.

In 1950, joined the U.S. Army voluntarily and participated in the Korean War.

In 1955, achieved rank of second lieutenant in the army.

He has commanded units from army, motorized army, special forces and airborne troops up to the famous 187th Regiment of Paratroopers.

Between the years of 1950 to 1966 served in Japan, Viet Nam, Germany and the United States.

As officer of the Army General Staff, was responsible for the continental defense of the United States.

In the Viet Nam War, conducted the crucial operations of 1972.

For three years served at Fort Knox, in the United States (commonly known as the principal gold reserve of the U.S.).

For U.S.-Japanese relations, acted as political and military consultant. For two years, served at the U.S. Army Headquarters, and for five years, at the Chiefs-of-Staff committee office. Headed the European and NATO departments for the planning and specifications administration during the Polish crisis.

In 1985, retired from military service.

Col Einseln is a graduate of the U.S. Army Leadership and General Staff College and the State Defense University. He also has a master's degree in administration from the George Washington University.

Married to an Estonian, grown children on their own.

Col Einseln is at home in Mountain View, California.

CAUCASIAN STATES

Abkhaz-Georgia Conflict: Russian Medical Unit Working in Gudauta

93UM0674A Moscow KRSNAYA ZVEZDA in Russian
9 Jul 93 p 1

[Report by KRSNAYA ZVEZDA correspondent Nikolay Astashkin: "War Is War: Some Kill and Maim, Others Rescue and Heal"]

[Text]

Unique Operations by Russian Military Surgeons at the Gudauta Hospital

Lately Georgia has persistently suggested that units and subunits of Russia's armed forces are taking part in combat operations against Georgian troops in Abkhazia.

These statements are highly inaccurate.

In reality, only one subunit of Russian troops is active in the area of the Georgian Abkhaz conflict. Frankly, however, it does not leave a battle day or night. This is because it is a special-purpose subunit.

Nor shall we conceal its main location. It is Gudauta, the grounds of a military hospital. The color white predominates on the uniforms of the personnel, which is a dead giveaway with respect to camouflage discipline. Medical instruments are the main weapons. The subunit ordinarily operates within a "vast" area the size of an operating table.

Heavy-duty technical support equipment is also assigned to it: an An-2 plane and an Mi-8MTB helicopter.

With respect to missions at sites difficult to reach, the personnel have to get there either on foot or by animal-drawn transport....

You have already guessed, of course, that we are referring to military medical personnel. They have to perform their military duty in a front-line area and with a corresponding backdrop. The groans of the wounded are drowned out by the bombardment of shells, and the scalpel is apt to freeze for a moment in a tense hand, waiting until the ground stops shaking from the blast of an aerial bomb.

They are first of all supposed to provide medical aid to our officers and enlisted men arriving with wounds and contusions from the areas of Esher, Sukhumi.... There are many. The wounds and contusions are ordinarily serious. It is a nasty natural law that fragments and bullets strike those who are not involved in the fighting particularly insidiously.

The military medical personnel have only one line. They help everyone who needs it. Standing with a scalpel over a wounded or sick person, they do not consider the subject of nationalities and ethnic groups, sovereignty and self-determination, a subject presently in vogue. They do not think about whom they have brought back to life—Abkhaz or Georgian—or whose death they have averted—Russian or Adzhar....

A white flag is a call for a truce. White flags are not to be found in this tormented, shattered land today. Today the white smocks of the military medical personnel symbolize the same thing.

This is because they all share the same, common dream. Lt-Col Med Service Yuriy Alekseyevich Matveyev told me about it:

"If just once, if just one of those who 'crave' all sorts of 'division' and 'apportionment' to the point of obsession, who brutally slash a border through the hearts and the fate of blinded and deafened people, could stand alongside us at the operating table and see the results of their deeds."

"Perhaps they would come to their senses and call for something else?"

"What if they were not alongside you but on...."

"On the table? We would save them.... The great Nikolay Ivanovich Pirogov once said it very precisely and thoroughly: 'Justice does not lie at the tip of a scalpel; it lies beneath the delicate covering of the heart.'"

Matveyev's comrades call him a surgeon by the grace of God. He came to Gudauta from St. Petersburg. He is the son of a front-line fighter. After the 10th grade he entered the Military Medical Academy. After the academy he did his internship at the school of clinical surgery. Then there was Afghanistan....

"It is probably just as difficult here in Abkhazia today," Matveyev commented. "Neighbors in the past are killing one another in the most barbarous ways. The military medical personnel have come up against antipersonnel bombs containing preformed spherical and needle-shaped projectiles for the first time. It is very difficult to operate on people wounded by them," Matveyev told me. "It is difficult even to find these objects. A steel sphere shows up on the X-ray, for example, but cannot be removed.

"Something of the sort happened to your colleague Vladimir Popov, holder of the Red Star. I did not remove the insides of the steel-ball bomb because of extensive bleeding. In this case it was better to leave the steel ball in the body than to attempt to remove it and risk damaging vital organs...."

At the hospital I was shown one of the needle-shaped objects with which this kind of bombs are filled. The size of a nail, with control fins, it is capable of killing a person instantly.

Sadly, this terrible weapon is being employed by the Georgian side in the fratricidal war.

I only need to add to this the fact that a group from the Main Military Hospital imeni N.N. Burdenko is coming to assist Matveyev and his comrades.

The possibility is not ruled out that we can now expect another announcement that Russia is moving a "large contingent of troops" into Abkhazia....

CENTRAL ASIAN STATES

Results of Winter Training in Kazakh Armed Forces

93UM0656A Moscow KRASNAYA ZVEZDA in Russian
6 Jul 93 p 2

[Article by KRASNAYA ZVEZDA correspondent Colonel Anatoliy Ladin under the "In the CIS Armies" rubric: "Once You Decide, Go Ahead and ..."; first two paragraphs are KRASNAYA ZVEZDA introduction]

[Text] KRASNAYA ZVEZDA in its articles has already informed its readers of the results of winter training attained in the Russian Army. But what can be said

about the situation in the armed forces of other Commonwealth states? After all, it must be assumed that activity is proceeding there, will all attendant difficulties and problems.

The story below is from our correspondent, who observed the finishing exercises of the Kazakh Army.

That was the first full-scale battalion tactical exercise with live firing held in the republic's Armed Forces. And, considering the fact that also participating in the exercise were a section of combat helicopters, a battery of Gral BM-21 rocket launchers, regimental artillery subunits, combat engineer subunits, and radio relay, tropospheric, and space communications equipment, it may be said that just about all elements of the young army underwent a performance evaluation. Entrusted with directing this training exercise was Colonel Bakhytzhan Yertayev, motorized infantry commander, while his deputies acted as his assistants. Development of an exercise plan, the attendant documentation, and coordinating the actions of the participating subunits occupied the attention of the Ministry of Defense Combat Training Directorate, of which Major General Yuriy Kurmatov was in charge. The fact that the exercise's progress was observed by Republic Minister of Defense Army General Sagadat Nurmagambetov speaks for itself.

In a word, although the exercise was a mere episode in the activity of the Armed Forces, it amounted to an indication of the general state of the latter. This in fact was attested to in our conversation with Colonel Yermurat Rayev, who is deputy chief of the Kazakh Ministry of Defense Combat Training Directorate. He pointed out that in principle the majority of motorized riflemen, tankmen, artillerymen, combat engineers, communication specialists, and reconnaissance men are prepared to assemble at the central combined-arms training ground to bring their skill level up to the point of, say, that attained in this exercise by Major Mikhail Pilganskiy's motorized rifle battalion. Rayev explained that the Kazakh Army devotes much attention to individual training. Special training subunits, patterned after the well-known regimental schools of the past, have been organized in regiments, the purpose being to compensate to some extent by the start of the summer training period for the shortage of junior commanders and specialists. Carried out at the same time in the winter period were 114 platoon live firings, 37 company tactical exercises with live firing, five regimental command and staff exercises, and two KShU's [command and staff exercises] with command and control of large units. The artillery and forces of the Ground Troops' Air Defense were encamped in the field for an extended period of time.

Indeed, it was not an easy matter to organize all of the above, providing everything necessary. However, as the saying goes, "Once you decide, go ahead and ...". When a decision is made to have one's own army, you must keep it going, in spite of whatever confusion may come about. Indeed, the exercise was designed specifically to

provide the observers with the opportunity of acquiring practical experience in the preparation and conduct of this kind of training measure.

We during the exercise were able to see the fruits of the labor invested by many commanders, who had wrought a high degree of skill in their subunits. Marked by confidence were the actions of the motorized riflemen commanded by Major Pilganskiy in their demonstrating mastery in employing all the standard complement weapons. As to the commander himself, the latter not only furnished leadership - and in quite an accomplished manner, at that - over his subunits, but also displayed timeliness and effectiveness in employing the capabilities of his attached and support subunits. Proficiency was evident in the operations of crews manning the Gral BM-21 rocket launchers under the command of Lieutenant Colonel Mikhail Danchenko, and the actions of anti-armor and self-propelled weapons troops. The power of tactical air defense was demonstrated by crews of the Shilka self-propelled anti-aircraft weapon, and by Igla man-portable surface-to-air missilemen. All the actions were remarkable in the smooth functioning of subunits and specialists.

Also creating a lasting impression were conversations in the observation stands held between the Kazakh minister of defense with generals and other officers. Army General Nurmagambetov, the sole frontline veteran among the CIS military ministers, made running comments on the troop actions on the basis of his experiences garnered in the thick of fighting during the Great Patriotic War. Incidentally, the Kazakh Army is still guided by the regulations and procedures that were in effect in the USSR Armed Forces. The minister believes that they can still be creatively applied under the new conditions. Also not forgotten in the combat training process is the best of the methodology inherited from the Central Asian Military District and the 40th Army.

There is a possibility that in time the Kazakh Army will undergo structural reform. The possibility of future new trials for military science cannot be excluded. For the present, it is my understanding that the Kazakh Army is pursuing the following mission: Maintain a combat potential and constitute, in the true sense of the term, a reliable element in the Collective Security Agreement system. Judging from the demonstration, the mission is being successfully pursued. Not everything is describable as affording a sense of satisfaction. The minister of defense himself so stated. Nonetheless, it is entirely clear that Kazakhstan today possesses a sufficiently trained and equipped army, one on which it is possible to place reliance.

Exchange of Fire With Afghans Continues in Tajikistan

93UM0686A Moscow KRSNAYA ZVEZDA in Russian
13 Jul 93 p 3

[Report by KRSNAYA ZVEZDA correspondent Anatoliy Ladin: "Tajikistan: The Exchange of Fire Does Not Cease Around the Bridgehead Captured by the Islamic Militants"]

[Text] Among those operating against the armed groups here are subunits of Russia's 201st Division led by a new commander.

The Islamic militants who broke through into the territory of Tajikistan at the end of June and the beginning of July of this year continue to hold an area of territory. The exchange of fire with heavy weapons between them and special brigades of the KNB [Committee for National Security], the 201st Division and border troops do not cease. A nearby border post is also subjected to systematic shelling from the Afghan side. The morale of the militants is dwindling by the day. Their supplies of food and ammunition are decreasing. More than 40 of their men were killed or wounded on Thursday and Friday of last week alone. Around 350 well-armed militants are concentrated near the Afghan community of Chakiyab, ready to support their comrades holding the bridgehead. It is important to the Islamic grouping located in Tajikistan. It is planned to use the bridgehead as a trans-shipment base for delivering weapons and military equipment to Tajikistan and for organizing more dependable movement of their allies into the republic.

In the meantime Col Viktor Timofeyev was appointed commander of the 201st Motorized Rifle Division by an edict issued by the president of the Russian Federation on 26 June and an order issued by Russia's minister of defense on 2 July. He was born in Leninabad in 1951. He completed the Blagoveshchensk Higher Tank Command School. Up to 1980 he served in various command posts in the Far East Military District. He completed the Military Academy of Armored Troops imeni Marshal of the Soviet Union R. Ya. Malinovskiy. He served as a deputy regimental commander and a regimental commander in the Group of Soviet Forces in Germany. He then commanded a regiment in the Baltic Military District. From 1989 until his appointment to his present position he served as deputy commander of a tank division in Kaliningrad. He is married and has two children.

Viktor Timofeyev replaces Maj-Gen Mukhritdin Ashurov as commander of the 201 Motorized Rifle Division. The latter is becoming a student at the General Staff Military Academy.

ARMS TRADE

MIG-31 Compared with F-14D

93UM0602A Moscow KRYLYA RODINY in Russian
No 3, 93 pp 1-5

[Article by Vladimir Ilin: "English Foxhound' With Red Stars"]

[Text] The employment of slats and small extensions in the wing root section facilitated the increase of the maneuvering characteristics of the new fighter aircraft in comparison with the MIG-25.

Structurally, the MIG-31's airframe is close to the MIG-25's. It is manufactured from 50% stainless steel, 16%—titanium, 33%—aluminum alloys, and 1% is other structural materials (the MIG-25's airframe consists of 80% steel, 8%—titanium, 11%—aluminum alloys, and 1% of other materials).

One of the 31's primary features is its improved electronic equipment, the basis of which is the SBI-16 "Zaslon" pulse-Doppler radar with a powerful phased-array antenna (the diameter of the antenna which is installed fixed is 1.1 meters, maximum detection range of an airborne target is more than 300 kilometers, maximum tracking range of a bomber class target is 200 kilometers and a fighter class target (minimum RCS [radar cross section] in the course plane— 2 m^2) is 90 km in the forward hemisphere and 120 km and 70 km, respectively, in the rear hemisphere. The radar's horizontal search sector is 140° (in some modes— 240° , that is, the radar can "look" backwards) and the vertical search sector is $+70/-60^\circ$.

The radar permits the detection and destruction of aircraft (including low-observables that have been manufactured using Stealth technology) and also helicopters, RPVs [remotely piloted vehicles] and cruise missiles in the upper hemisphere and in the background of the earth, to carry out the simultaneous tracking of up to 10 targets and to guide R-33 guided missiles to four different targets (in contrast to the radar installed on the American F-14 Tomcat that permits tracking of 24 enemy aircraft simultaneously only in a relative narrow sector ($\pm 20^\circ$ along the azimuth), Zaslon can carry out tracking in an aperture in a sector of $\pm 70^\circ$).

The fighter aircraft is equipped with an IR radar on a movable turret that permits it to carry out a search and to employ weapons without revealing itself and to operate under conditions of intensive electronic jamming.

An element of four MIG-31 aircraft is capable of controlling airspace with a front that is 800-900 km long and in so doing the aircraft form a tactical formation for circular observation of the airspace (like in an AWACS aircraft).

The APD-518 digital secure communications system supports the exchange of radar information in an element of four MIG-31 aircraft that are located at a distance of up to 200 km from each other. With its help, you can guide several fighters of other types with less sophisticated BREO [onboard electronic equipment] (the MIG-23 and MIG-25) to the target. In this case, the MIG-31 performs the role of leader. The digital secure line for exchanging RK-RLDN [radar patrol and guidance] data supports coordination with ground command posts.

A large-format tactical situation display with a circular shaped screen and a multi-function display on a CRT [cathode ray tube] with a rectangular screen have been installed in the operator's cockpit. The pilot's cockpit is equipped with a color display on a heads-up display (ILS) PPI-70V ("Voskhod" MP Design Bureau) which does not have any foreign equals in series production.

Navigational equipment includes "Tropik" radar systems ("Loran", the coordinate determination accuracy is 0.13-1.3 km at a distance of 2,000 km) and "Marshrut" ("Omega", 1.8-3.6 km—2,000-10,000 km), that provide the capability to employ the aircraft in the Arctic TVD [Theater of Military Operations].

Armament includes the R-33 long range guided missile with inertial guidance and radio correction along the sustained sector of the trajectory and active radar terminal guidance. This system has been employed on air-to-air guided missiles for the first time.

The first American guided missile with a similar guidance system, the AIM-120 AMRAAM, entered the U.S. Air Force inventory only in the winter of 1991. The AIM-54 Phoenix guided missile—the F-14 fighter's "main caliber"—has combined semiactive-active guidance.

The R-33 missile's length—4,150 mm, the diameter of the body—380 mm, the span of the fin assembly—900 mm, launch weight—480 kilograms [kg], the weight of the high-explosive fragmentation warhead—47 kg, the R-33 guided missile's maximum launch range—120 km (the AIM-54C Phoenix guided missile's range—130 km), and the maximum altitude of destroyed targets—28 km. The missiles are located on four semi-flush external hard points under the fuselage.

The older R-40 (like on the MIG-25) medium range guided missiles are in the inventory. Four guided missiles with a radar semiactive and IR guidance system can be located on four under wing hard points (maximum launch range—50 km). For self-defense, the installation of R-60M highly maneuverable dog fight missiles is possible on two twinned underwing pylons.

A six-barreled GSh-23-6 cannon (23-mm, 260 rounds, rate of fire 8,000 rounds per minute, weight of projectile 200 grams, muzzle velocity 700 meters per second). In

the non-operational mode, its gun port is covered by a special flap. This improves aerodynamics and reduces the RCS.

According to foreign data, more than 200 MIG-31's were in the inventory of our PVO [air defense] troops at the beginning of 1992. Deliveries have begun to foreign purchasers, the first—to China.

A Russo-Chinese agreement for 24 MIG-31's was concluded at the end of May 1992. Delivery of the first five was planned for June 1992. Later they plan to organize assembly under license at an aircraft plant in Shenyang. The plant's construction is being completed. Rollout of the first Chinese-produced aircraft is planned for the end of 1994. Production at the rate of four per month is planned by the year 2000.

They propose employing refueling aircraft to increase the combat operating radius of the Chinese MIG-31's that are equipped with a retractable inflight refueling probe. These aircraft are being reequipped from V/N-6 bombers (the Chinese variant of the TU-16 aircraft) in Israel by the Bedek firm (a division of IAI [Israeli Aircraft Industries]). AWACS aircraft are also being developed in China (also with Israeli technical assistance). All of these steps have extended the forward edge of the Chinese air defenses far beyond the borders of the PRC's [People's Republic of China] territorial waters.

Certain countries of the Middle East have also manifested interest in the MIG-31.

Thus, the MIG-31 has become the first native air defense fighter-interceptor to be offered on the world market (previously only the MIG-21, MIG-23, and MIG-29 frontal aviation fighters were delivered abroad and also the SU-7, SU-20, SU-22, SU-24KM and SU-25 strike aircraft).

The closest fighter aircraft to the MIG-31 in mission and combat capabilities is the U.S. Navy Grumman F-14 Tomcat carrier-based interceptor aircraft that is

designed to provide aircraft carrier air defense. However, the MIG-31 significantly exceeds it based on maximum speed and ceiling, having approximately the same ferry range and comparable onboard radar capabilities to the F-14.

The Harris AN/ASW-27B telecode communications system was used on the F-14A until 1990. It provided automated exchange of information only between the fighter and the shipborne command post or AWACS aircraft. The latter performed the role of relay and could transmit information received by the F-14's onboard radar to other fighters in the element. At the end of 1991, they began to install the Harris AN/ASW-27C improved digital communications system. It provided the exchange of information in the automatic mode between four Tomcat aircraft (like the MIG-31 system).

The new MIG-31 fighter-interceptor aircraft was demonstrated for the first time at an aircraft show near Minsk in the winter of 1992. A more powerful radar was installed in it in comparison to the initial aircraft. Armament was increased and consists of six super-long range guided missiles. They are located under the fuselage on semi-flush hard points. RVV-AE highly maneuverable medium range guided missiles are on four external underwing hard points. The maximum flight range of the comparatively small missiles is nearly 100 km (work is being conducted on a version with a 150 km launch range). The guided missile is capable of destroying targets that are maneuvering with a G-load of 12. The MIG-31 aircraft's wing has increased area wing extensions, and the dimensions of the fuselage fairing have been increased. Aerodynamic fins have been installed on the wing tips. They improve directional stability. The cockpit's forward windshield has been manufactured in one solid piece which substantially improves the field of vision.

The MIG-31 as before has all of the chances to remain the strongest PVO fighter right up until the beginning of the next century.

Specifications of the MIG-31, MIG-25PD, and the Grumman F-14

Aircraft type	MIG-31	MIG-25PD	F-14D
Year of first flight of initial aircraft	1975	1966	1970
Year of first flight of aircraft of this version	1975	1978	1987
Wing span, in meters	13.46	14.02	11.65/19.54*
Total length of aircraft, in meters	22.69		19.10
Aircraft length without PVD [pitot tube], in meters	20.62	19.75	
Aircraft height, in meters	5.15		4.88
Wing area, in m ²	61.60	61.40	52.49
Normal takeoff weight, in kilograms	41,000	34,920	32,100
Maximum takeoff weight, in kilograms	46,200	36,720	33,720
Weight of fuel in internal tanks, in kilograms	16,350	14,570	7350
Weight of fuel in external tanks, in kilograms	4,000	4,370	1,720
Type of engine	D-30F6	R-15BD-300	F110-JE-400
Maximum thrust, in kgs	2 X 15,510	2 X 11,200	2 X 12,300
Thrust to weight ratio under normal takeoff weight	0.76	0.64	0.73
Maximum wing loading under normal takeoff weight, kilogram/m ²	666	569	642
Maximum speed, in kilometers per hour	3,000	3,000	1,900
Maximum speed near the earth, in kilometers per hour	1,500	1,200	1,400
Maximum cruising speed, in kilometers per hour	2,500	2,500	1,020
Service ceiling, in meters	20,600	20,700	15,200
Service flight range without external fuel tanks, in kilometers	2,500**	1,250**	
Ferry range with external fuel tanks, in kilometers	3,300	1,730	3,220
Intercept range, in kilometers: at supersonic speed	720		600
At subsonic speed without external fuel tanks	1,200		
At subsonic speed with external fuel tanks	1,400		1,500
At subsonic speed with one aerial refueling	2,000		
Time to reach the altitude of 10,000 m, in minutes	7.9		
Duration of flight, in hours:			
Without aerial refueling	3.6	2.05	
With one aerial refueling	6-7		
Landing speed, in kilometers per hour	280	298	248
Length of takeoff run, in meters	1,200	1,250	
Length of landing run, in meters	800	800	
Maximum Operational G-Load	5.0	4.5	6.0***

*Depending on the selected wing sweep angle

**At supersonic speed

***They propose increasing it to 7.5 in the future.

(Continuation. Beginning in KRYLYA RODINY 2-93)

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History, Specifications, Selling Points of MIG-29

93UM0602C Moscow KRYLYA RODINY in Russian
No 3, 93 pp 14-15

[Article by Mikhail Levin, under the rubric: "MosAir-Show-92": "That Same 'MIG'"]

[Text] We have already discussed the Air Force concept of developing only the SU-27. It is a sad and forced position. Because without the competition of firms, stagnation is inevitable... Meanwhile, the celebrated 'MIG', judging by everything, does not plan to surrender.

Besides the initial modification of the MIG-29 frontal aviation fighter aircraft that is well-known based upon previous demonstrations, two new variations of it were presented for the first time at MosAirShow-92: the MIG-29KVP and the MIG-29K.

The TTT [Technical and Technical Requirements] for the MIG-29 aircraft were published in 1972. The technical design began in 1974. The first of 11 experimental aircraft that were built completed a flight on 6 October 1977. Series production began in 1982 at plants in Moscow (MAPO imeni Dementyev) and Nizhny Novgorod).

The MIG-29 entered the inventory in 1983. By the beginning of 1992, there were more than 500 aircraft in the Air Force. The MIG-29 was supplied to Cuba, Czechoslovakia, the GDR [German Democratic Republic], India, Iran, Iraq, North Korea, Poland, Romania, Syria and Yugoslavia.

The MIG-29KVP is an intermediate variant. It was built to work out takeoffs from a ski jump and landings on an arresting gear. It can be used both as a combat aircraft and also as a trainer for carrier aviation pilots at ground-based airfields. Its only distinction from ordinary land-based aircraft is its hook and reinforced construction.

The MIG-29K is a carrier-based fighter-bomber. Its testing began during operations from the deck of the heavy aircraft-carrying cruiser Admiral of the Fleet of the Soviet Union Kuznetsov in November 1990. It has a folding wing, an arresting hook, and a reinforced landing gear in the tail section of the fuselage. The foreign object protection system covers that were used on preceding variations have been replaced with lighter retractable grills. The auxiliary upper air intakes have been removed. Additional fuel tanks have been installed in place of them.

There is a perforation on the walls of the landing gear wells that serves as a unique air intake to ensure air access to the engine when the grills are closed.

The wing has eight hard points. The nose fairing has a new shape of a single curvature. A "Zhuk" radar is located in it. There are no overwing dorsal fins. In previous variations of the aircraft, packages of dipole reflectors [chaff] and IR decoys were located in them.

The aircraft that was demonstrated had Kh-31 antiradar missiles on the internal pylons and R-73 air-to-air missiles on the external pylons.

The overall architecture of the weapons control system is the same as on the initial ground-based MIG-29. There are no similar systems abroad and the optical-radar system which operates autonomously and in combination with other onboard systems also has no equals.

The MIG-29K received a new optical-electronic radar. Fighter aircraft target detection range was 15 km in the first variations of the aircraft. Sensor cooling has been improved and therefore the range has been increased on the MIG-29K.

It has an inflight refueling system, the fuel reception probe of which is located on the left side along the forward pilot cockpit. The highly effective, reliable and comparatively light "Zhuk" multi-function onboard radar was developed by "Fazatron" Concern. The following radar operating modes have been provided for.

"Air to Air"

Detection and automatic target tracking in free space and in the background of the Earth (sea).

Transmission of target designation to air-to-air missiles with active, passive, and semi-active radar guidance, IR guidance, and support of NAR [unguided aircraft rocket] launches and airborne firing from the cannon.

Concealed tracking of several targets and a simultaneous attack by several missiles.

Rapid vertical search and automatic lock-on of visually seen targets in close combat.

"Air-to-Surface"

Cartography by an actual beam or synthetic aperture.

Enlargement of the scale of the selected sector of the map and freezing of the image.

Measurement of the aircraft's own speed for adjustment of the navigation system.

Measurement of the coordinates of the target selected on the ground (sea) with transmission of target designation to air-to-surface missiles with active, passive, and semi-active guidance, support of unguided aircraft rocket launches, firing from the cannon and dropping aircraft bombs.

Support of low altitude flight with automatic flyover and avoidance of obstacles.

The operational and technical assessment of the MIG-29 aircraft was completed in Germany in June 1991 and the German Ministry of Defense announced its intention to retain in the inventory 20 MIG-29 single-seater air superiority fighter aircraft and four MIG-29UB two-seater trainer aircraft that had been previously delivered

to the GDR. We assume that they will operate approximately until the year 2002 and each of the fighters will fly 2,500 hours by that time. In addition to the primary role of supporting air defense of the eastern sector of Germany from Preshen [transliterated] Airfield near the border with Poland, JQ9 MIG-29 Squadron will be utilized as provisional enemy aircraft during Luftwaffe and other NATO forces exercises. MIG-29 and F-15 and F-16 aerial mock combat has been conducted, including in the autumn of 1990 within the framework of preparing for the war with Iraq.

At the present time, former GDR National People's Army servicemen and two-three retrained pilots of the "old" Bundeswehr, a squadron commander, a Bundeswehr colonel and his deputy—a former NPA officer—primarily fly in the German MIG-29's. German Air Force Commander Lieutenant General H. J. Kyubart [transliterated] has completed one flight in the MIG-29.

General Kyubart expressed concern about supplying the German MIG-29 squadron with spare parts ("It is even difficult to understand who in Russia is responsible for the production and sale of parts for these aircraft") but, in his words, the "MIG's" can be operated normally until 2002-2003. Among the shortcomings of the German MIG-29's is the low remaining service life of the early models of the RD-33 engines that were installed in them (the mean time between repair is only equal to 350 hours and the total service life can total 600 hours). As a result, during the first stage of mastering the aircraft, a low MIG-29 readiness coefficient was noted in the FRG [Federal Republic of Germany]: in December 1991, only six of 24 aircraft were combat ready. In January 1992, the degree of combat readiness was increased two-fold. Russian plant representatives who maintain the engines and who ensure an increase of service life by 50-100 hours were sent to the FRG.

In 1991-1992, the Finnish Air Force organized a competition for a new fighter aircraft. Four aircraft participated in it: The Mirage 2000-5, the JAS-39, the F-16 and the F/A-18. The MIG-29 fighter aircraft was not officially examined, although it was a "shadow" fifth candidate. And, in the words of Finnish Air Force Commander Major General H. Nikunen, the MIG-29 demonstrated very good flying specifications but inadequately high operating costs and operating technology level. Moreover, the general expressed doubt in Russia's capability to provide the aircraft with spare parts or to

offer the required barter compensation (the Finnish side will pay for the entire shipment of aircraft with deliveries of its goods).

Since 1991, further MIG-29 deliveries have been terminated to the Soviet Air Force in order to "prevent many types of aircraft with similar missions". But production for export is possible. Intermediaries are undertaking export sales attempts. For example, in August 1992, RIA Agency reported that Moscow Oblast Government Minister of Industry A. Chubov announced an attained agreement that provides for the sale abroad of 60 MIG-29 fighter aircraft. Lukhovitskiy Aircraft Plant and a British firm are participating in the deal. The developer is also increasing his efforts in this situation. In a KRASNAYA ZVEZDA interview directly prior to the beginning of the MosAirShow-92 exhibition, Chief Designer R.A. Belyakov announced that not a single aircraft had been sold abroad in 1991, although there are more than 100 undelivered MIG-29's that are worth a total of more than \$1 billion at MAPO. One of the primary reasons for that—is the imperfection of native trading structures.

To improve the situation, the KB [design bureau] organized "MIG-servis", an organization that unites the design bureau with "Znamya truda" Manufacturing Plant that is cooperating with only one foreign trade structure that must issue licenses for aircraft sales. That will accelerate the delivery of aircraft and spare parts to the consumer. We assume that the developer will have certain profits from the aircraft sales.

On 4 June 1992, the Russian Supreme Soviet adopted a draft edict that authorizes MAPO to independently carry out marketing of MIG-29 aircraft. This draft was subject to further discussion. Moreover, during the work of the exhibition, an agreement was signed on the creation of a joint venture with a German firm to render assistance in the operation of the MIG-29's that are in the German inventory.

The sale of MIG-29's, like other military equipment, is being restricted for political reasons. Taiwan's Deputy Minister for Foreign Affairs recently visited Russia. Taiwan was studying the possibility of purchasing 90 MIG-29 aircraft for Taiwan's Air Force but received a refusal from Russia.

Demonstration of the aircraft at various air shows of the recently formed "Strizha" pilot team at Kubinka Air Base that flies MIG-29 aircraft is helping marketing of the aircraft. Many foreign pilots and experts who have been afforded the opportunity to fly familiarization flights in the fighter aircraft have noted the aircraft's high specifications.

MIG-29 Specifications

	MIG-29	MIG-29K
Wing span, in meters	11.36	7.8/12.0 (folded/extended)
Aircraft length, in meters	17.32	17.27
Aircraft height, in meters	4.73	4.73
Wing area, in m ²	38	38
Crew	1	1
Number and Type of Engines	2 RD-33 TRDD [turbojet bypass engine]	2 RD-33K turbojet bypass engines (SPNPO [translation unknown] imeni V.Ya. Klimov)
Maximum Afterburner Thrust, in kgs	2 X 8,300	2 X 9,400
Maximum takeoff weight, in kg	18,480	17,700
Normal takeoff weight, in kg	15,240	15,240
Combat payload, in kg	3,000	3,000
Maximum flight speed at high altitude, in kilometers per hour	2,450 (M=2.3)	2,300 (M=2.2)
Near the Earth, in kilometers per hour	1,300	1,300
Service ceiling, in meters	18,000	18,000
Time-to-climb near the Earth, in meters per second	330	260
Maximum flight range, in kilometers	2,100 (with one external fuel tank)	2,600 (with external fuel tanks)
Takeoff run without afterburner, in meters	600-700	600-700
With afterburner, in meters	260	260
Takeoff and landing strip length for the MIG-29K under normal and maximum takeoff weight, in meters		120-200
Length of takeoff run, in meters	600	600
Maximum operational G-load	9	8.5
MIG-29K angle from a ski jump during takeoff, in degrees		15
Maximum allowable MIG-29K braking G-load from the arresting gear		-4.5
MIG-29K landing speed, in kilometers per hour		230
MIG-29K nominal straight-in landing glide path, in degrees		-4.0

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SECURITY SERVICES

MVD Information Storage, Retrieval Key to Anti-Crime Work

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19 Jun 93 p 3

[Article by Col Sergey Kalinayev, KRASNAYA ZVEZDA correspondent: "Baron Palen, Lev Zadov, Yuriy Churbanov, and Others. Report from the Main Information Center of Russia's Ministry of Internal Affairs"]

[Text] If you use the cliché "work is in full swing," it sort of does not seem appropriate, at least outwardly, as applied to the people who have settled in this tall white tower. Silence. Tightly closed office doors. No bustle, no

running about, no idle conversations during a smoke break about the results of a soccer match, the galloping prices, or the latest scandal in parliament. But it, the work, is indeed in full swing here. It is just in full swing, so to speak, without the bubbles and steam, without the catchwords and brass band. But then, that is probably how the real job should be done, when each and everyone, without looking at the clock and in no hurry for the end of the workday, is engaged in one common question: What will be the output of the intense "use of the brain" and to what extent will the result of the labor influence the fight against evil that has tightly grasped Russia—crime?

But evening is descending over Moscow, and the life of the floors is becoming silent. Only the duty officers are racking their brains over the special assignments that are

urgent, and, walking softly together with the twilight, the police detail walks around the elevator lobbies, flights of stairs, and storerooms.

It has entree everywhere, other than rooms requiring special access. In those rooms behind doors with cipher locks are concentrated unique card files and special data bases. The huge masses of information, carefully stored for decades (the Information Service of Russia's Ministry of Internal Affairs [MVD] is about to turn 75), are in a continuous orderly movement daily. To the people masterfully running their fingers through the cards and over the computer keyboards, they yield information which is being waited for impatiently throughout Russia and abroad. In places where administrative decisions are being made, where they are preparing to capture a mafia group, and where the identity of a suspect is being established or sought after fingerprints are found (and sometimes an unidentified corpse is discovered).

"Forewarned is forearmed," the deputy chief of the Center of Criminal Information (one of the main subdivisions of the Main Information Center [MIC]), Colonel of Internal Service Yu. Liskin, recalls the Latin saying. Yuriy Aleksandrovich [Liskin] and I look into various rooms in which the smooth rustling of telefaxes, the cheeping of computers, and the muffled chatter of teletypes predominate.

"You know," he continues, "sometimes it seems to me that through the noise of this equipment you can hear the live voices of millions and millions of people. Each of them in their time broke the law somewhere, each was convicted, but the information about this did not turn into sand but accumulated in the memory of the intelligent machines. One can say that it lives to this day; moreover, it works."

I learn from a subsequent conversation that just about everyone is here in the records, as they are called. For example, such "exotics" as: from Baron Platon Palen, executed in Crimea by plenipotentiaries of the OGPU [United State Political Administration at the Council of People's Commissars, USSR], Lev Zadov (Zenkovskiy) head of the Makhno counterintelligence, Sidney Riley, intelligence agent of Her Majesty the Queen of Great Britain, and Fannie Kaplan, left-wing socialist-revolutionary, to illustrious representatives of the criminal environment of our years.

Stored here in the MIC are their identification doubles called record documents, which also comprise in sum total the criminal information bank. Some of the card files are laminated. Basically, these are paper media dating back to the years 1918-1960. Despite their good preservation and relevance, they actually have become document-memorials, having the right to lay claim to perpetual storage. By the way, in France, similar documents have been stored for more than one and a half centuries.

It is hard to believe this, but everyone (!) who has ever been brought to trial has left his trace, so to speak, in the

MIC. And the documents concentrated in criminal records, I emphasize, are not secret dossiers. Every criminal is convicted publicly, and his full name, fingerprints, and other data are subject to mandatory and legal registration. You cannot recount the instances when this information helped unravel other "fresh" criminal cases.

A few statistics. Last year, nearly one out of every five recorded crimes (22.7 percent) was exposed with the help of the records.

Here are just a few of them.

On 6 February at 9:00 AM, the body of a male with knife wounds in the area of the heart was found on a railroad embankment near Yekaterinburg. The transportation procurator's office, as it was supposed to do, opened a criminal case. However, the young fingerprint identification specialist of the Administration of Internal Affairs, who initially received the fingerprint chart, made a mistake which prevented making immediate identification of the victim. That is when they turned to the MIC, where they not only found the reason for the negative result but also were able to positively identify the body of the murdered victim, who had numerous previous conviction.

Or Nekrasov Street in Kharkov. Early one morning, local residents were surprised to see a quite decent "Minsk" refrigerator near the garbage dumpster. This was quite a find for our times! But several minutes later you could not have found a single person who would have wished to use this appliance for its intended purpose, for when they opened the door, a dismembered corpse appeared before their eyes. This time, too, the MIC came to the assistance. An identification of the fingerprints was made. It was established that the victim was a native of Kustanay Oblast. Timely identification helped make a quick search for the criminal.

There are many such examples.

In all, the Center of Criminal Information has to this day concentrated in a by-name operational information card file 25 million record documents and 17 million fingerprint charts in the fingerprint card file. The automated operational investigation systems of the ABD-Tsentr, AIPS "Avtopoisk," "Oruzhiye," AIS "Opoznanaye," "OVIR-kriminal," and so forth help solve the most complex problems. Naturally, they would be "dead" without the dozens and dozens of lawyers, electronics engineers, system technicians, operators, programmers, fingerprint specialists, and representatives of other professions who sort of connect the times, making the pages of our criminal history (you will never get away from this) tangible. And they do this with one goal: this history, if not interrupted in the foreseeable future, at least does not flourish blatantly, but turns pale and wither, and stops poisoning our not at all sweet life.

Taking a short "tour" of the floors of the MIC, I understood perhaps the most important thing: criminal information is an awesome force and is expensive. It

must serve only the law and answer to the guaranteed rights and freedoms of the individual. That is why the records should be reliably protected (and they are) from possible encroachments from the criminal environment, which would be willing to pay any amount in any currency for certain information.

But besides the purely criminal shade in the information center's work, there is also an aspect that is of value by historical, universal, and cultural standards. It was a miracle that I was able to see the personal file of the prisoner Osip Mandelshtam, documents with notes of the chairman of the VChK [All-Union Extraordinary Commission for Combating Counterrevolution and Sabotage], Feliks Dzerzhinskiy, or the "dossier" of Hitler's chief pilot, Lieutenant General SS Hans Bauer, and of Himmler's nephew, Wehrmacht Lieutenant Leo Raubal.

Each document is a fate, though not always blending in with some or other ideological designs and dogmas, but alive, with flesh and blood. Here in my hands is a card in format No. 1, containing sparing information about a remarkable Russian woman, Mariya Leontyevna Bochkareva. With the highest authorization, during World War I she donned a soldier's overcoat, went on bayonet charges, and under enemy fire brought out wounded from the battlefield. She was awarded the Cross of Saint George and medals for personal bravery. In October 1917, she commanded the women's battalion of death guarding the Winter Palace, which in Soviet film production was represented in a ludicrous and mocking manner. You see, a year later, on instruction of General L. Kornilov, Mariya Leontyevna was sent to America for assistance, where she met with the U.S. President himself...

Here such expressive facts, checked and devoid of political bias, can completely change our distorted impression about the past, about our roots.

Alas, in one newspaper article it is simply impossible to touch upon all the directions of the activities of such a giant as the MVD Main Information Center of Russia. There is very much behind the "scene." For example, subdivisions involved in statistical information, computerization of internal affairs agencies, rehabilitation of victims of political repressions, and so forth. Maybe I will have occasion to talk about them sometime.

How do the people of the MIC live these days? The same as everyone. The prices "torment" them, and the wages of the employees are low. There is not enough useful areas or resources, and now they are losing personnel. And this is with the volume of work constantly increasing—up to 5 million urgent requests and answers a year. Law enforcement agencies from throughout Russia, foreign states, Interpol, and human rights organizations of Europe and America turn here for information. And not a single inquiry goes unanswered. It must be noted that the MIC is strictly guided by normative acts defining the procedure for granting information and the circle of people to whom the information can be given.

Here they are still anxiously awaiting for the Supreme Soviet to pass the Russian Federation laws on records and registration activities in the area of supporting law and order and on information, data processing, and protecting information. Omissions and especially blank spots in setting standards can cause serious damage, which takes years and decades to straighten out.

I left the MIC building with mixed feelings. On the one hand, I very much wanted to say a kind word about the people working here. But on the other hand, I wanted to wish both for them and all of us for our ailing society to get on the path of recovery sooner and for a little less criminal information to flow into and from this beautiful skyscraper located not far from the center of Moscow.

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